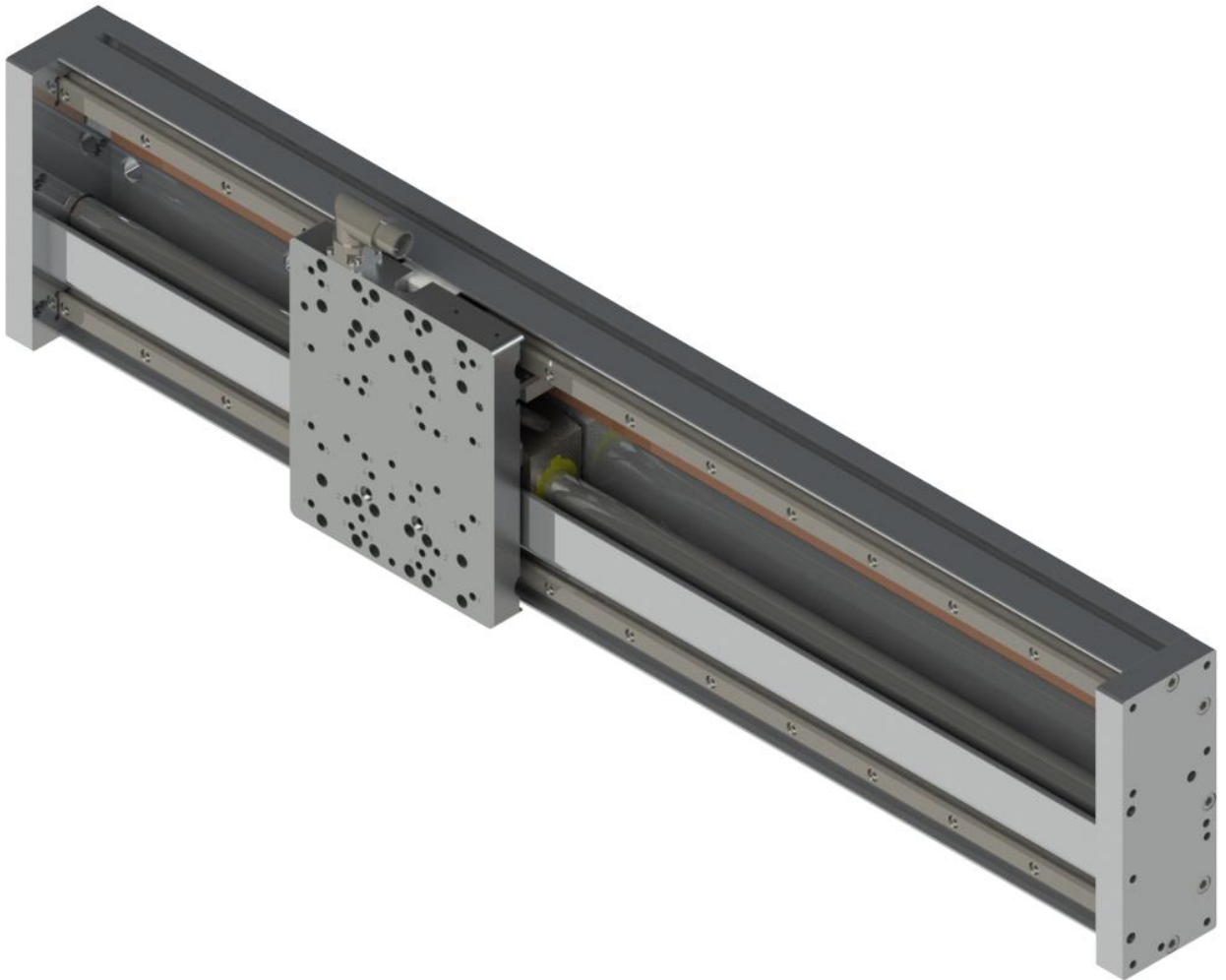


# Installation Guide Linear Guides E01

ENG

## E01-37S



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# 1 General information

## 1.1 Introduction

This manual includes instructions for the installation, maintenance, transport, and storage of linear rotary motors. The document is intended for electricians, mechanics, service technicians, and warehouse staff. Be sure to observe the general safety instructions as well as those in each chapter at all times. Keep this manual accessible to the assigned staff.

## 1.2 Explanation of symbols



Triangular warning symbols warn against a danger.



Round command symbols tell what to do.

## 1.3 Qualified personnel

All work such as transport, installation, commissioning and service is only allowed to be carried out by qualified personnel. Qualified personnel in the sense of the safety instructions in this documentation are persons who are familiar with the transport, installation, assembly, commissioning and operation of the product and who have the appropriate qualifications.

This manual must be read carefully before transport, installation, commissioning, service and all safety-related information must be adhered to.

## 1.4 Liability

NTI AG (as manufacturer of LinMot linear motors and MagSpring products) excludes all liability for damages and expenses caused by incorrect use of the products. This also applies to false applications, which are caused by NTI AG's own data and notes, for example in the course of sales, support or application activities. It is the sole responsibility of the user to check the information and information provided by NTI AG regarding their safety-relevant correctness. In addition, the entire responsibility for safety-related product functionality lies exclusively with the user. Product warranties are void if products are used with stators, sliders, servo drives or cables not manufactured by NTI AG unless such use was specifically approved by NTI AG. NTI AG's warranty is limited to repair or replacement as stated in our standard warranty policy as described in our "terms and conditions" previously supplied to the purchaser of our equipment (please request copy of same if not otherwise available). Further reference is made to our general terms and conditions.

## 1.5 Copyright

This work is protected by copyright.

Under the copyright laws, this publication may not be reproduced or transmitted in any form, electronic or mechanical, including photocopying, recording, microfilm, storing in an information retrieval system, not even for training purposes, or translating, in whole or in part, without the prior written consent of NTI AG. LinMot® is a registered trademark of NTI AG.

## 2 Safety instructions



### Contusions

Sliders are installed behind the housing of the PR02 linear rotary motor. These sliders contain neodymium magnets and have a strong attractive force. Careless handling could cause fingers or skin to become pinched between two sliders or motors. This may lead to contusions, bruises, and bone fractures. When handling the motors, wear thick protective gloves and keep a minimum distance between the motors. Refer to the "Minimum distance from motor" section for minimum distance.



### Pacemaker / Implanted heart defibrillator

Sliders could affect the functioning of pacemakers and implanted heart defibrillators. For the duration of a strong approach to a magnetic field, these devices switch into test mode and will not function properly.

- If you wear one of those devices keep a minimum distance of 150 mm (6") between the pacemaker / defibrillator and the housing of the linear rotary motor.
- Inform others who wear these devices to comply with this minimum distance!



### Caution - Risk of Electric Shock!

Before working, make sure that there are no high voltages.



### Fast-moving machine parts

The sliders of LinMot linear motors are fast-moving machine parts. All necessary precautions must be taken to prevent access during operation (provide covers, guards, etc.).



### Automatic restart

The motors can start automatically under certain circumstances! If necessary, a corresponding warning symbol must be provided and protection against entering the hazardous area or a suitable safe electronic disconnection must be provided!



### Risk of injury due to a defect or fault

For areas where a defect or fault can result in substantial property damage or even serious personal injury, additional external precautions must be taken, or devices must be installed to ensure safe operation even if a defect or fault occurs (e.g. suitable safe electronic disconnection, mechanical interlocks, barriers, etc.).



### Magnetic field

Magnets integrated in the sliders produce a strong magnetic field. They could damage TVs, laptops, computer hard drives, credit and ATM cards, data storage media, mechanical watches, hearing aids, and speakers.

- Keep magnets away from devices and objects that could be damaged by strong magnetic fields.
- For the above-mentioned objects, keep a minimum distance as described in the "Pacemaker / implanted defibrillator" section.
- For non-anti-magnetic watches, keep the double minimum distance.

**Burn hazard**

The shaft of LinMot linear rotary motors can reach temperatures of 80 °C, which may cause burns upon contact.

**Grounding**

All metal parts that are exposed to contact during any user operation or servicing and likely to become energized shall be reliably connected to the means for grounding.

**Effects on people**

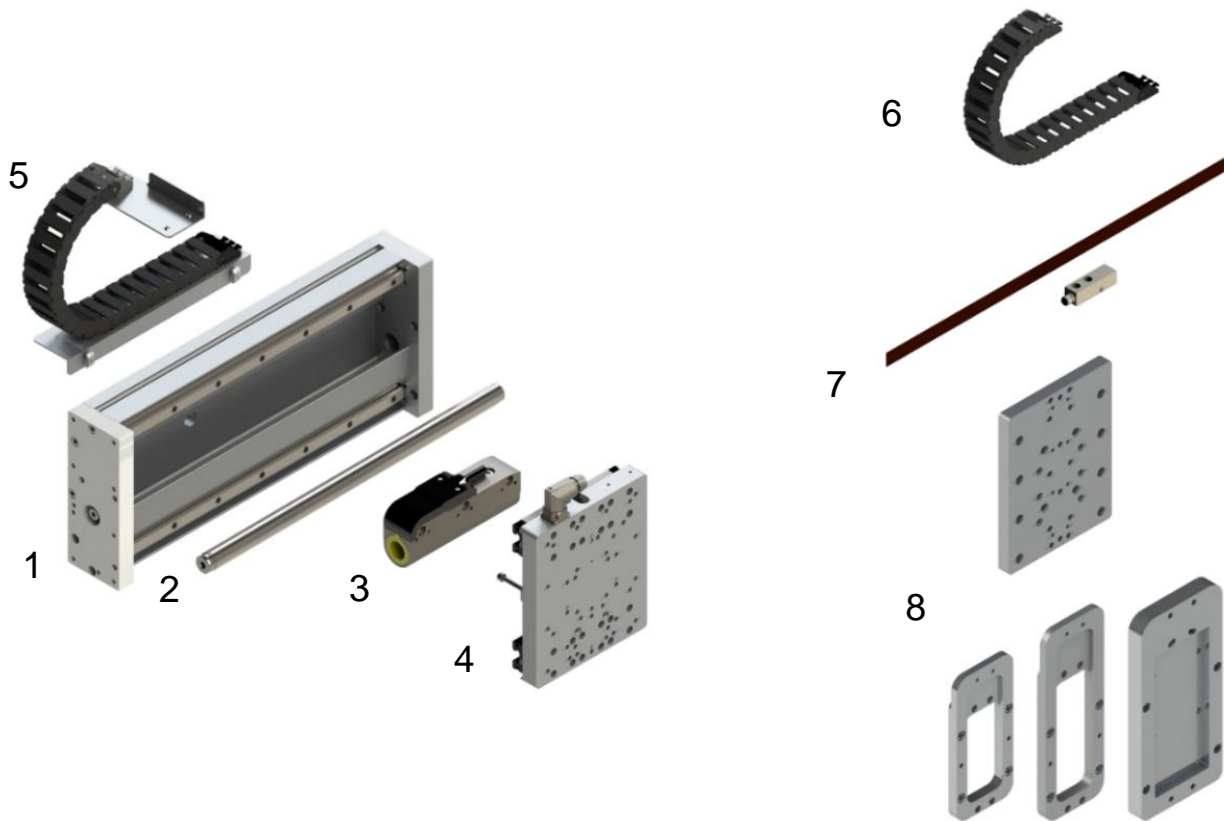
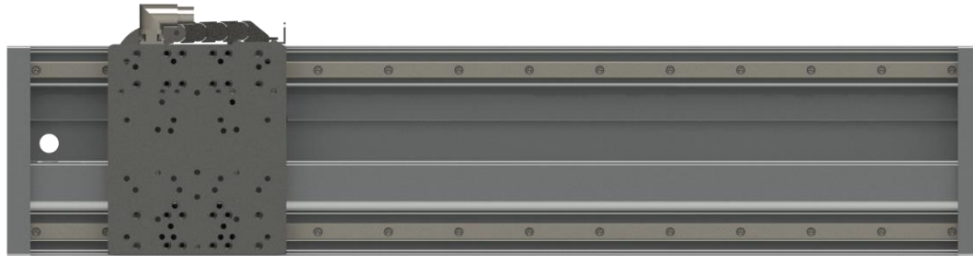
According to the current level of knowledge, magnetic fields of permanent magnets do not have a measurable positive or negative effect on people. It is unlikely that permanent magnets constitute a health risk, but it cannot be ruled out entirely.

- For your own safety, avoid constant contact with magnets.
- Store large magnets at least one meter away from your body.

**Temperature resistance**

Keep motors away from unshielded flame or heat.  
Temperature above 120°C will cause demagnetization.

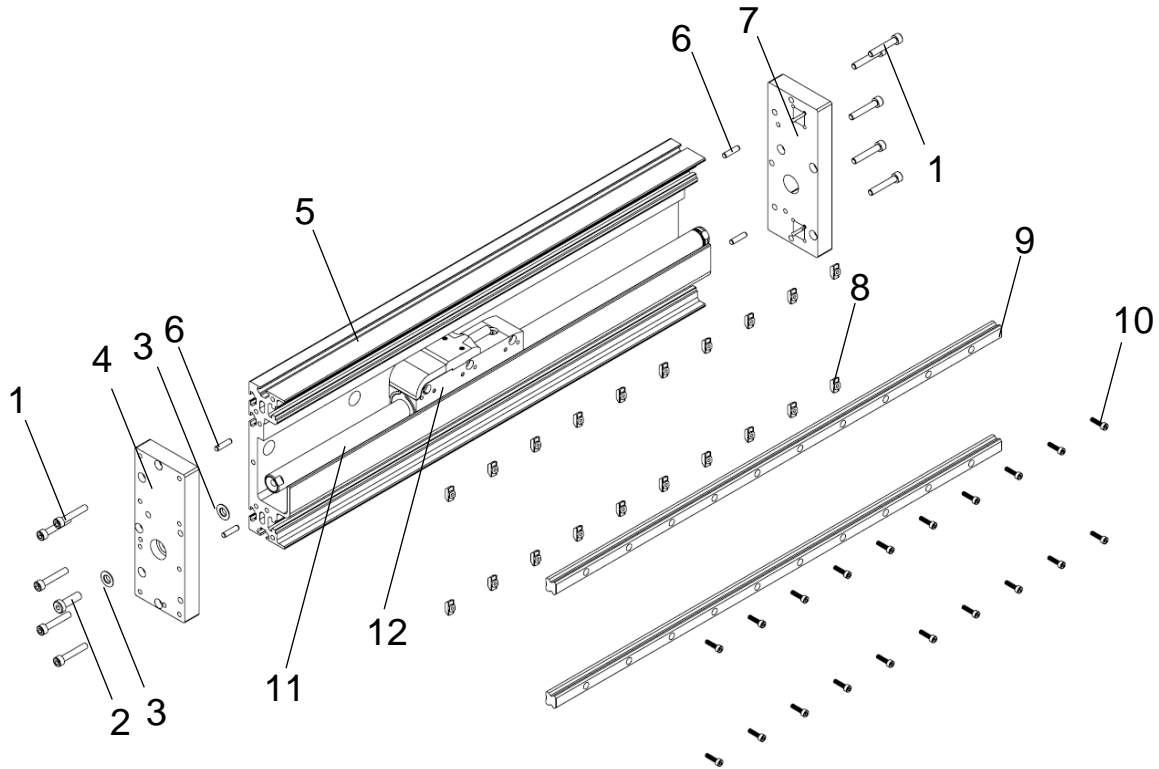
### 3 Product overview



1. E-Guide
2. Slider
3. Stator
4. Carriage Kit
5. Option: Trailing Chain Kit (with mounting brackets)
6. Option: Trailing Chain
7. Option: External Sensor (Sensor Kit, Stripe)
8. Option: Adapters



### 3.1 Parts List E-Guide with Stator and Slider

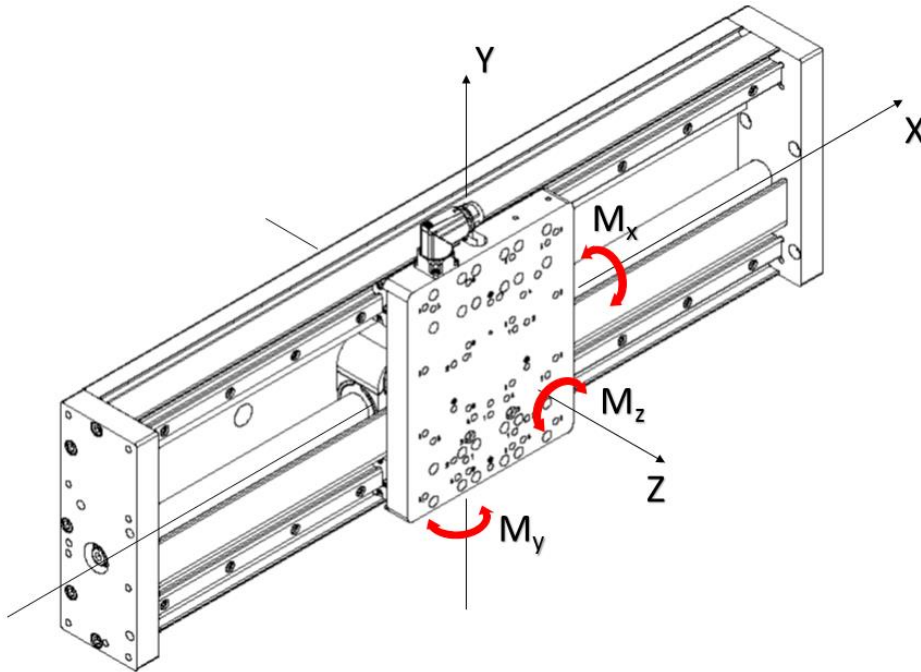


		E01-37Sx300	E01-37Sx400	E01-37Sx500	E01-37Sx600	E01-37Sx800
1	Socket screw	DIN 7984 / M8x25	DIN 7984 / M8x25	DIN 7984 / M8x25	DIN 7984 / M8x25	DIN 7984 / M8x25
2	Socket screws	ISO 4762 / M6x25	ISO 4762 / M6x25	ISO 4762 / M6x25	ISO 4762 / M6x25	ISO 4762 / M6x25
3	Spherical washers	DIN 6319 C / M8	DIN 6319 C / M8	DIN 6319 C / M8	DIN 6319 C / M8	DIN 6319 C / M8
4	End plate left	0160-0065	0160-0065	0160-0065	0160-0065	0160-0065
5	Profile block	0160-0075	0160-0071	0160-0072	0160-0073	0160-0074
6	Parallel pins	ISO 8734 / 5x14	ISO 8734 / 5x14	ISO 8734 / 5x14	ISO 8734 / 5x14	ISO 8734 / 5x14
7	End plate right	0160-0066	0160-0066	0160-0066	0160-0066	0160-0066
8	T-Nuts	0150-2189	0150-2189	0150-2189	0150-2189	0150-2189
9	Railing chains	0150-5256	0150-5254	0150-5255	0150-5197	0150-5239
10	Socket screws	ISO 4762 / M4x16	ISO 4762 / M4x16	ISO 4762 / M4x16	ISO 4762 / M4x16	ISO 4762 / M4x16
11	Slider	0150-1427	0150-1428	0150-1429	0150-1430	0150-1431
12	Stator	0150-2550	0150-2550	0150-2550	0150-2550	0150-2550

		E01-37Sx1000	E01-37Sx1200	E01-37Sx1400	E01-37Sx1600	E01-37Sx2000
1	Socket screw	DIN 7984 / M8x25	DIN 7984 / M8x25	DIN 7984 / M8x25	DIN 7984 / M8x25	DIN 7984 / M8x25
2	Socket screws	ISO 4762 / M6x25	ISO 4762 / M6x25	ISO 4762 / M6x25	ISO 4762 M6x25	ISO 4762 / M6x25
3	Spherical washer	DIN 6319 C / M8	DIN 6319 C / M8	DIN 6319 C / M8	DIN 6319 C / M8	DIN 6319 C / M8
4	End plate left	0160-0065	0160-0065	0160-0065	0160-0065	0160-0065
5	Profile block	0160-0075	0160-0076	0160-0077	0160-0078	0160-0079
6	Parallel pins	ISO 8734 / 5x14	ISO 8734 / 5x14	ISO 8734 / 5x14	ISO 8734 / 5x14	ISO 8734 / 5x14
7	End plate right	0160-0066	0160-0066	0160-0066	0160-0066	0160-0066
8	T-Nuts	0150-2189	0150-2189	0150-2189	0150-2189	0150-2189
9	Railing chains	0150-5198	0150-5247	0150-5248	0150-5199	0150-5250
10	Socket screws	ISO 4762 / M4x16	ISO 4762 / M4x16	ISO 4762 / M4x16	ISO 4762 / M4x16	ISO 4762 / M4x16
11	Slider	0150-1432	0150-1433	0150-1434	0150-1435	0150-1436
12	Stator	0150-2550	0150-2550	0150-2550	0150-2550	0150-2550

### 3.2 Technical Data Carriage Kits

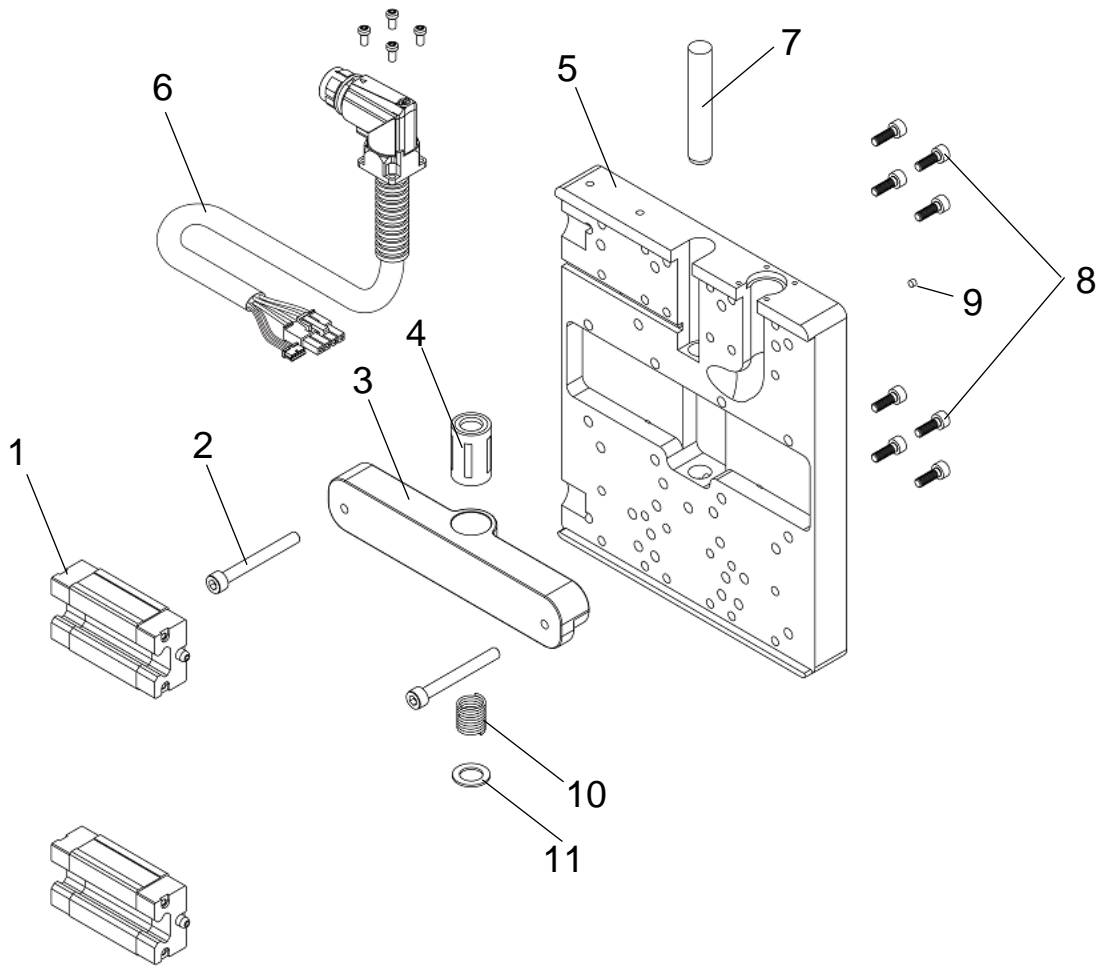
There are two version of carriage kits available for the E-Guides, standard and heavy duty. You can find the main differences in the table below. Mass and friction values are important for LinMot-Talk software configuration wizard.



	Standard version		Heavy Duty version	
Static Load Rating (per carriage)	15400 N	(3462.1 lbs)	15400 N	(3462.1 lbs)
Dynamic Load Rating (per carriage)	8400 N	(1888.4 lbs)	8400 N	(1888.4 lbs)
Static Moment Load $M_{x0}$	cannot occur <sup>1</sup>		cannot occur <sup>1</sup>	
Static Moment Load $M_{y0/z0}$	180 Nm	(1593.13 lbf in)	cannot occur <sup>1</sup>	
Dynamic Moment Loads $M_x$	cannot occur <sup>1</sup>		cannot occur <sup>1</sup>	
Dynamic Moment Loads $M_{y/z}$	98 Nm	(867.37 lbf in)	cannot occur <sup>1</sup>	
Friction (estimated)	10 N	(2.25 lbs)	19 N	(4.27 lbs)
Moving mass	2540 g	(5.60 lb)	2860 g	(6.30 lb)
Number of Carriages	2		4	
Distance between Carriages	-		78 mm	
Distance between Rails	138 mm		138 mm	

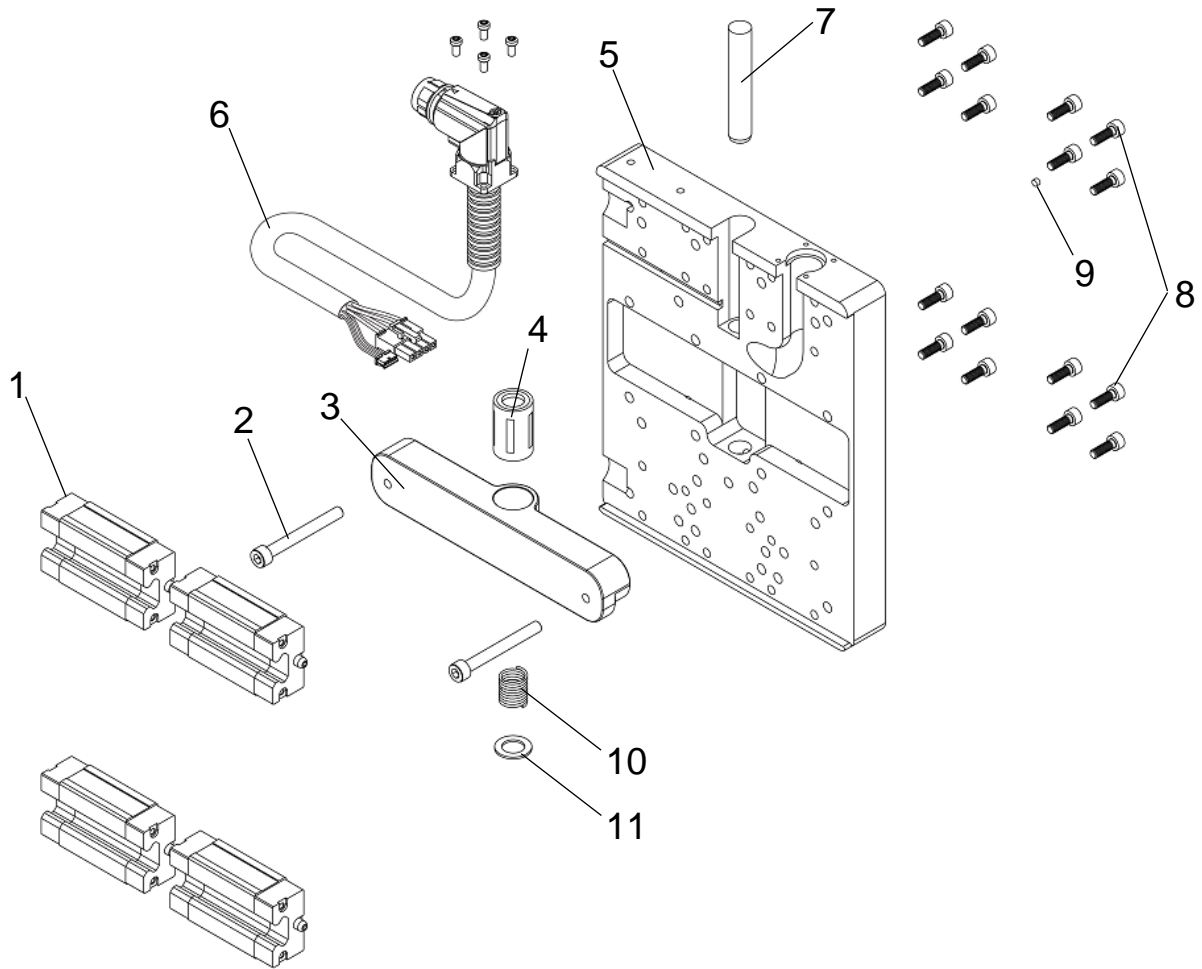
<sup>1</sup>Prevented by second carriage.

**3.2.1 Parts List Carriage Kit (standard)**



		E01-37S/FWK-F
1	Carriages	0230-0433
2	Socket screw	ISO 4762 / M5x45
3	Flexible motor adapter plate	0160-0085
4	Linear ball bearing	0230-0120
5	Flexible adapter plate for E01-37S	0160-0068
6	Adapter cable with connector and screws for E01-37S carriage kit	0150-2982
7	Parallel pin	ISO 8734 / 10x60
8	Threaded socket screw	ISO 4762 / M4x12
9	Head socket screw with dog point	ISO 4028 / M3x4
10	Pressure spring	0230-0304
11	Shim ring	DIN 988 / 10x16x1

**3.2.2 Parts List Carriage Kit Heavy Duty**



		E01-37S/FWK-F-HD
1	Carriages	0230-0433
2	Socket screw	ISO 4762 / M5x45
3	Flexible motor adapter plate	0160-0085
4	Linear ball bearing	0230-0120
5	Flexible adapter plate for E01-37S	0160-0068
6	Adapter cable with connector for E01-37S carriage kit	0150-2982
7	Parallel pin	ISO 8734 / 10x60
8	Threaded socket screw	ISO 4762 / M4x12
9	Head socket screw with dog point	ISO 4028 / M3x4
10	Pressure spring	0230-0304
11	Shim ring	DIN 988 / 10x16x1

## 4 Installation instructions

### 4.1 Installation options

There are several options available for mounting the E01-37S Guide

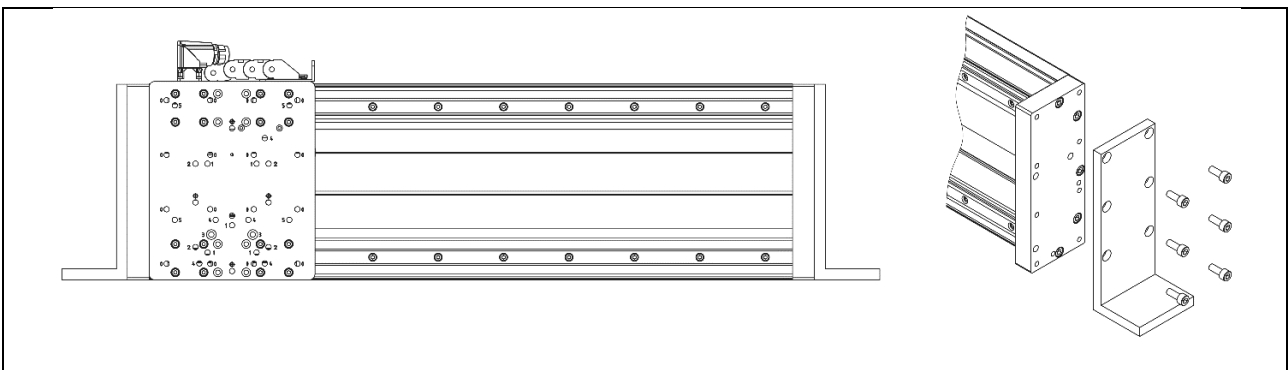
The side plates are equipped with fits for parallel pins, bores and counterbores. Parallel pins may only be used to align the Guide and are not intended for mounting. Mounting is done by using bores or counterbores. Additional brackets or adapters shown in examples may be required. These must be provided by the customer.

Following rules apply for installation:

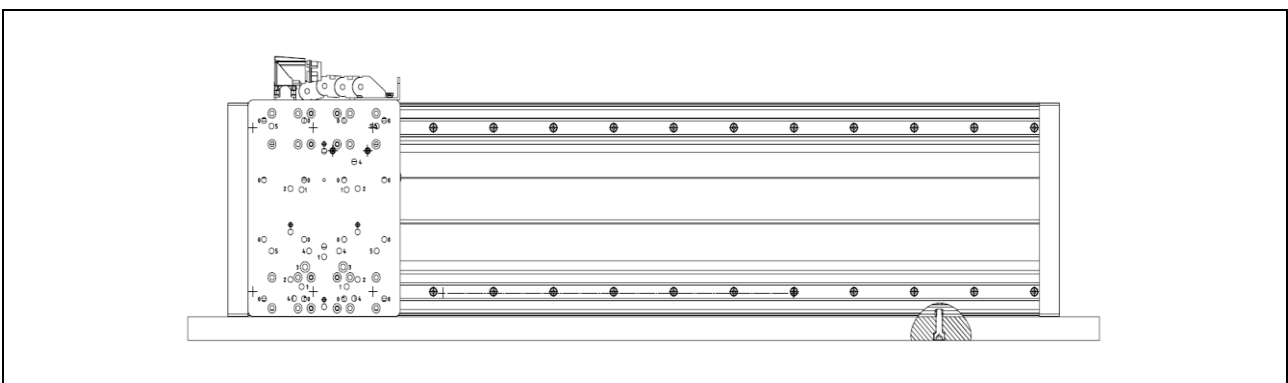
- E-Guide profile should be pressed to the reference surface to get the best accuracy and alignment.
- E-Guide profile is equipped with T-Slots on the bottom and back side through its entire length. These can be used to mount the guide. Depending on the length of a guide and application, a sufficient amount of T-Nuts must be used.
- Installation “on the back” is allowed only for lengths up to 1200 mm.

The following sketches show examples of different installation options. The detailed dimensions can be found in the "Dimensions" chapter.

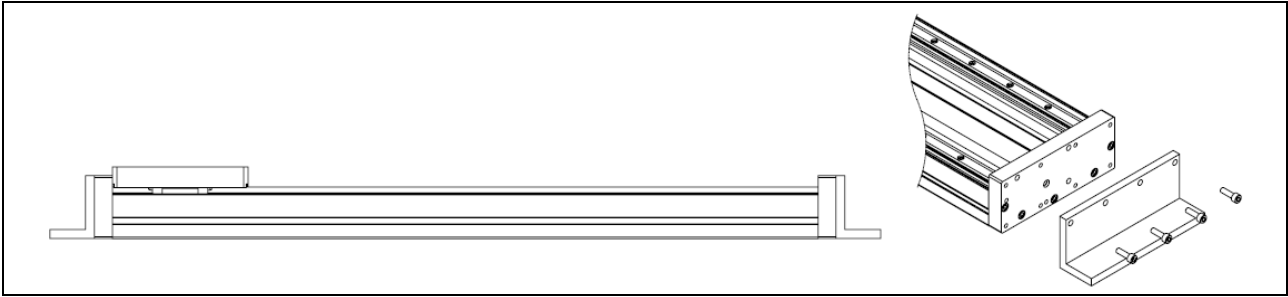
#### 4.1.1 Installation examples



Example 1: Installation with “slider on the top” using side plates and brackets.



Example 2: Installation with “slider on the top” using T-Nuts from the bottom of the profile.



Example 3: Installation “on the back” using side plates (lengths up to 1200 mm).

**Ordering information**

Item	Description	Item-No.
Nut N8/M4	Nut for 8 mm T-slots with M4 thread	0150-2189
Nut N8/M6	Nut for 8 mm T-slots with M6 thread	0150-2558

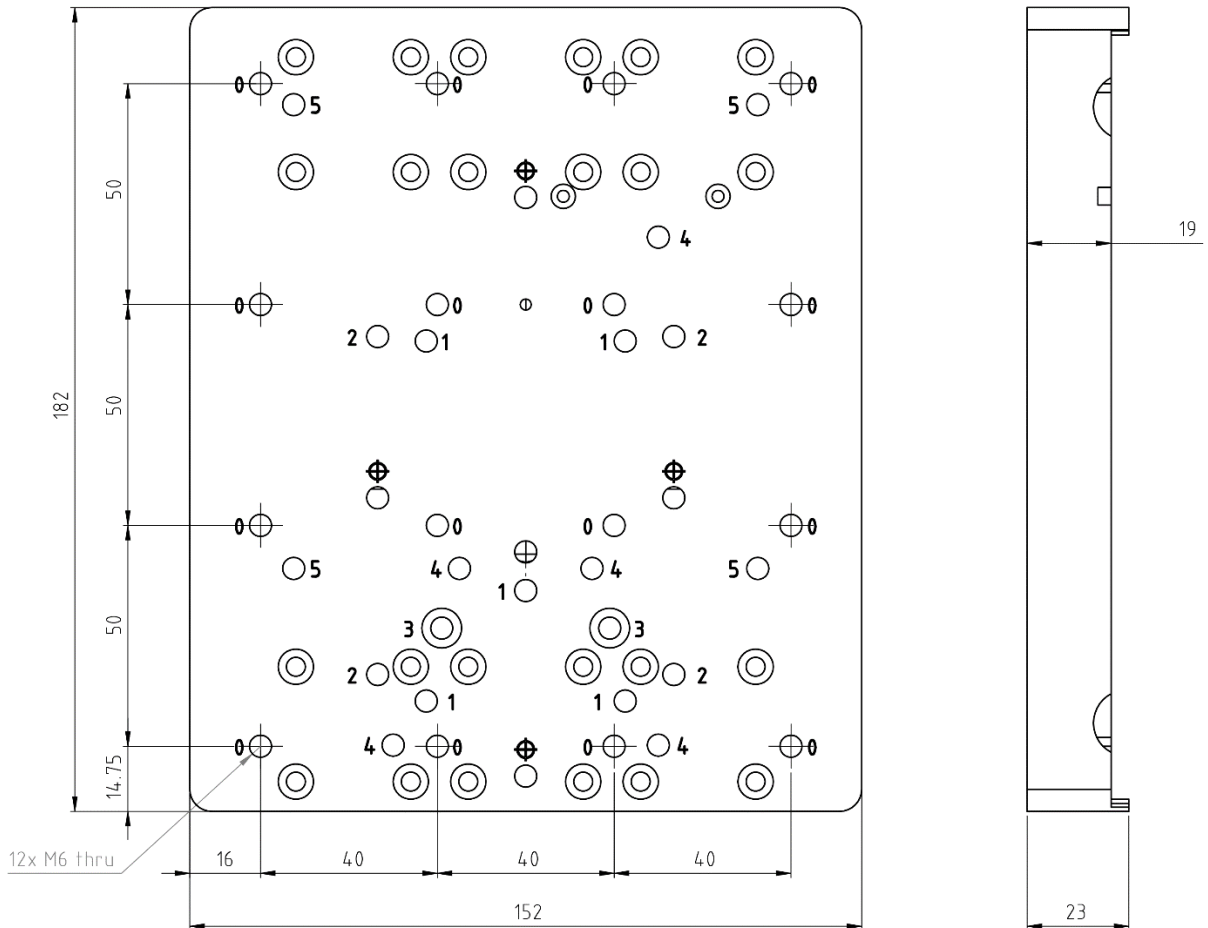
**4.2 Installation of the load**

The mounting plate of the Guide is used for installation of the load. The mounting plate is equipped with multiple bores and fittings for parallel pins. The centre of gravity of the load mass should be centred and as close as possible to the mounting plate to ensure even distribution of the mass between carriages.

For example, twelve M6 thru bores indexes with “0” that can be used for installation of the load. You can find complete dimensions in the dimensions chapter.



Before performing installation of the load, all necessary precautions must be taken to prevent operation of this device, e.g. the device must be disconnected from the power supply.



## 5 Assembling instructions

Single axes of the E-Guides are delivered pre-assembled. In case of replacements or if additional carriages/stators are installed the following instructions must be considered.

For instructions regarding installing additional accessories onto E-Guide, see chapter accessories.

For instructions regarding replacing the damaged parts, see the chapter maintenance.



Before performing any of following action, all necessary precautions must be taken to prevent operation of this device, e.g. the device must be disconnected from the power supply.

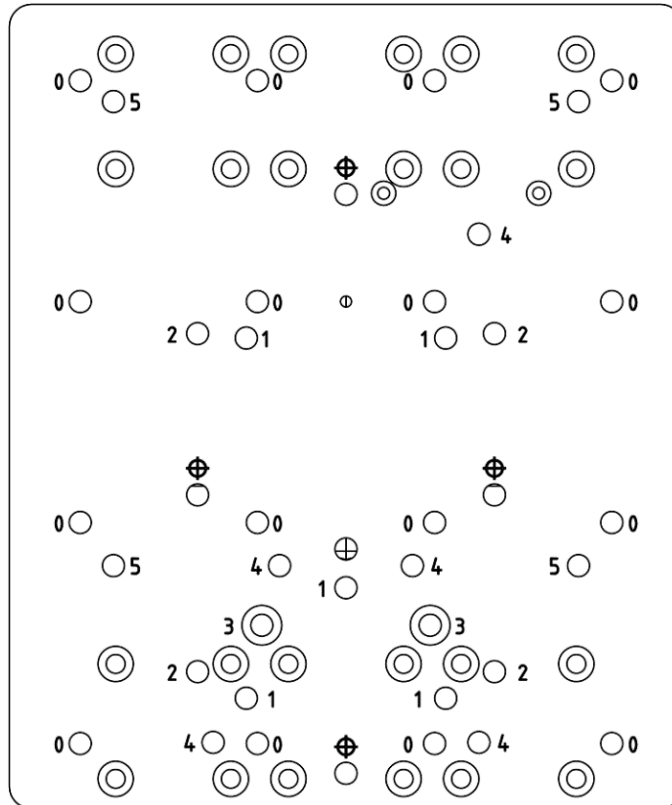


Use thread locker on all screws.  
Use corresponding torque moments to tighten the screws.  
The tolerances between the parallel axes must be compensated to eliminate any tensions.

### 5.1 Overview and order information

Products to be mounted	Mounting through	Item needed	Item-No.
Gantry or Semi-Gantry with E01-37	Directly onto E-Guide	ASKit-01 (screws-set)	0150-2985
Gantry or Semi-Gantry with F01-37	Directly onto E-Guide	ASKit-01 (screws-set)	0150-2985
Gantry or Semi-Gantry with F01-48	Directly onto E-Guide	ASKit-01 (screws-set)	0150-2985
Linear Guides H01-23 and B01-23	Directly onto E-Guide	ASKit-01 (screws-set)	0150-2985
Linear Guides H01-37 and B01-37	Multifunctional Adapter	E01-37S-MA	<a href="#">0150-2984</a>
Linear Guides H01-48 and B01-48	Multifunctional Adapter	E01-37S-MA	<a href="#">0150-2984</a>
Linear Rotary Motors PR01-52x40-80	Adapter	F01k-PR01-52x40/60	<a href="#">0160-2536</a>
Linear Rotary Motors PR01-52x60-100	Adapter	F01k-PR01-52x40/60	<a href="#">0160-2536</a>
Linear Rotary Motors PR01-52x60-150	Adapter	F01k-PR01-52x60-150	<a href="#">0160-2657</a>
Linear Rotary Motors PR01-70	Multifunctional Adapter	E01-37S-MA	<a href="#">0150-2984</a>
Linear Rotary Motors PR01-84	Adapter	F01k-PR01-84	<a href="#">0160-2594</a>
Linear Rotary Motors PR02-52	Multifunctional Adapter	E01-37S-MA	<a href="#">0150-2984</a>

### 5.1.1 E-Guide Mounting plate indexes overview



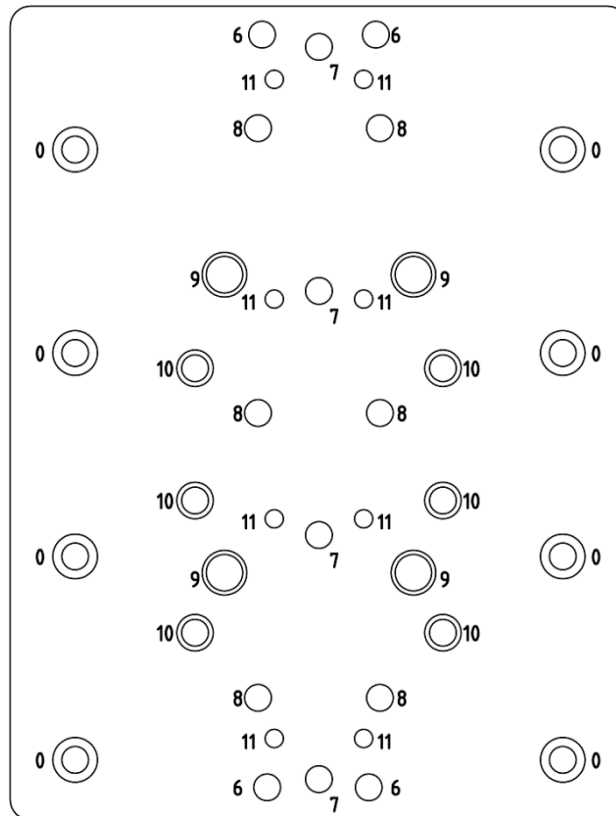
Mounting plate is a part of carriage kit.

Item	Description	Item-No.
E01-37S/FWK-F	Wagen Kit für E01-37 Führung	<a href="#">0150-2918</a>
E01-37S/FWK-F-HD	Heavy Duty Carriage kit for E01-37 Guides	<a href="#">0150-2941</a>

Index	Size	Used for
0	M6	Multifunctional adapter
1	M6	Gantry with F01-37S
2	M6	Linear Rotary Motors PR01-52x40/60
2	M6	Linear Rotary Motors PR01-52x60-150
3	M6	Linear Guides H01-23 and B01-23
4	M6	Gantry with E01-37S or F01-48
5	M6	Linear Rotary Motors PR01-84
⊕	Ø5	Parallel pin position indicator



**5.1.2 E-Guide Adapter plate index overview**

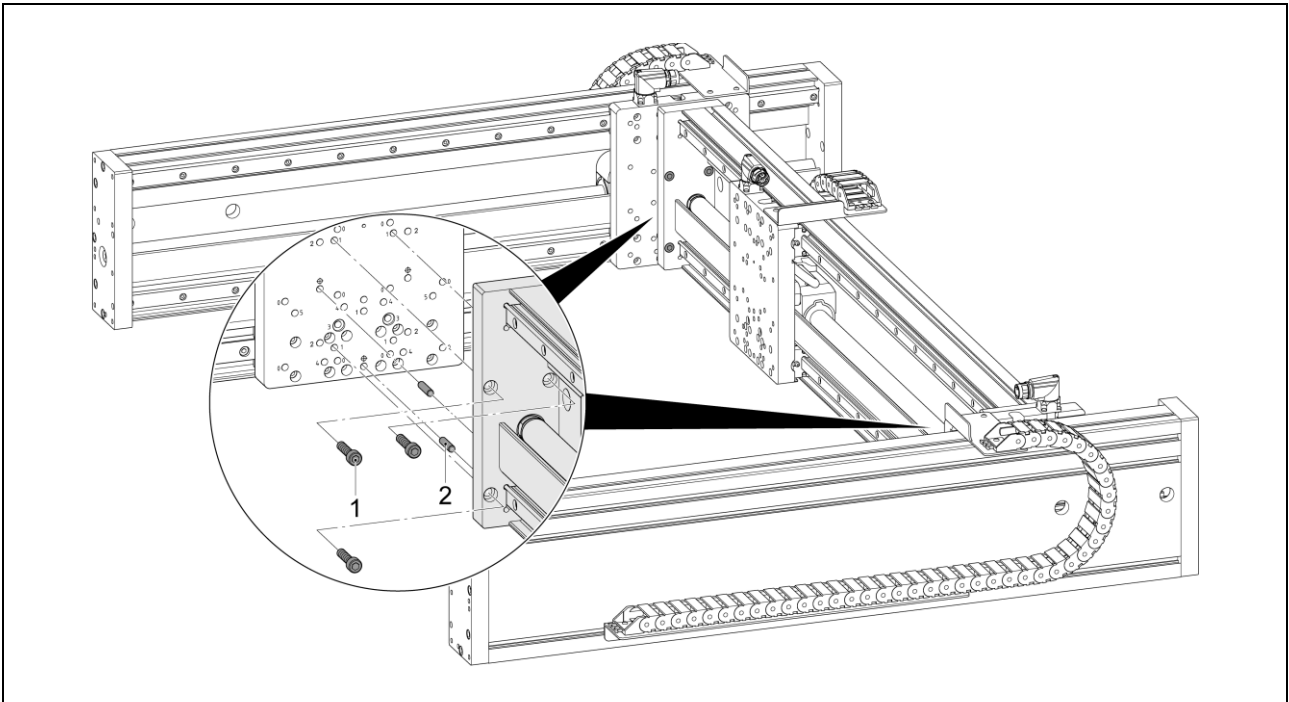


Item	Description	Item-No.
E01-37S-MA	Multifunctional adapter for E-Guide	<a href="#">0150-2984</a>

Index	Counterbore for	Used for
0	M6 DIN 912	Mounting on E-Guide Mounting Plate
6	M6 DIN 912	Linear Rotary Motors PR01-70
8	M6 DIN 912	Linear Rotary Motors PR02-52
9	M10 DIN 912	Linear Guides H01-48 and B01-48
10	M8 DIN 912	Linear Guides H01-37 and B01-37

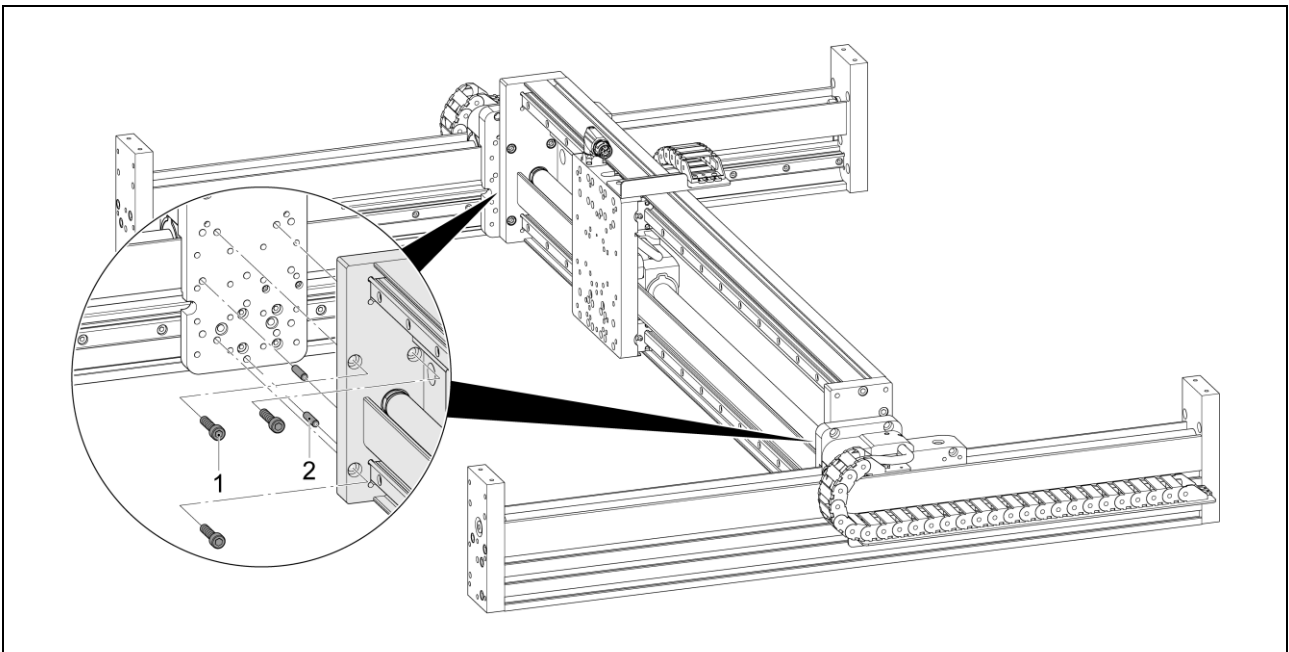
## 5.2 Assembly of gantry design

### 5.2.1 E01-37S Guide with E01-37S Guides on Y-Axes



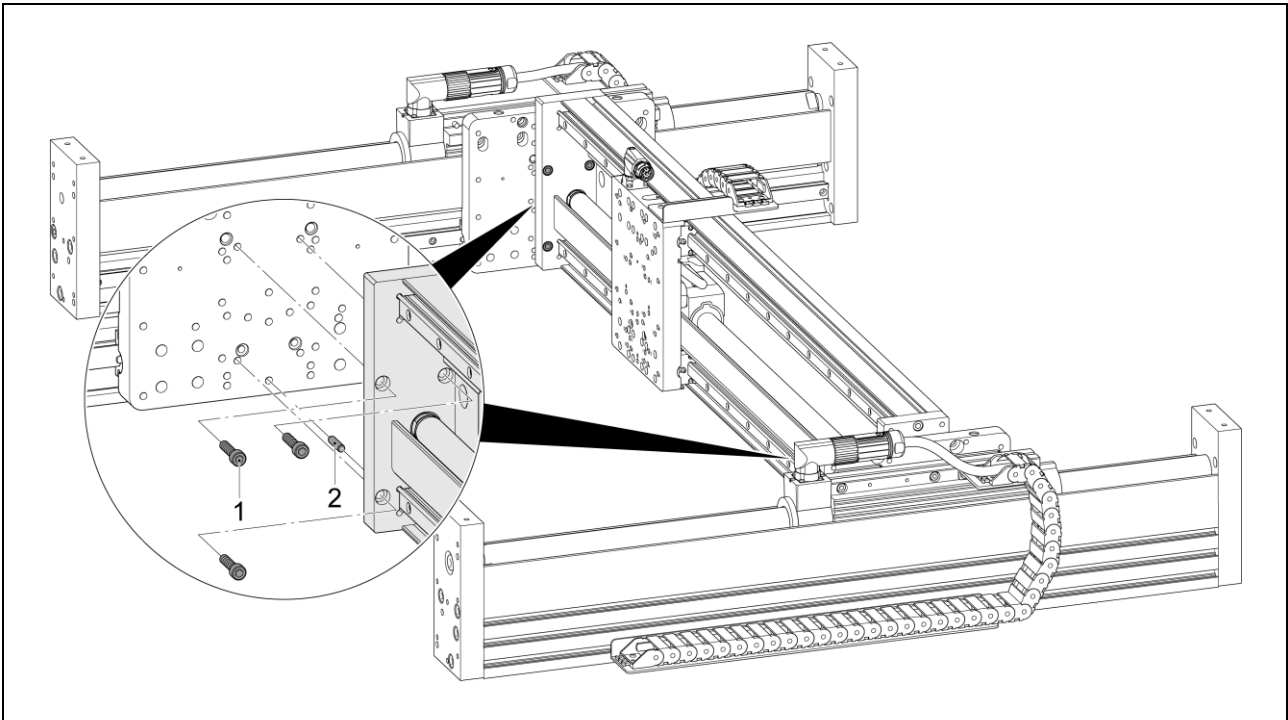
Pos.	Pcs.	Description	Tightening torque [Nm]
1.	3	M6x25 ISO 4762	8.6
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-

### 5.2.2 E01-37S Guide with F01-37S Guides on Y-Axes



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	3	M6x25 ISO 4762	8.6
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-

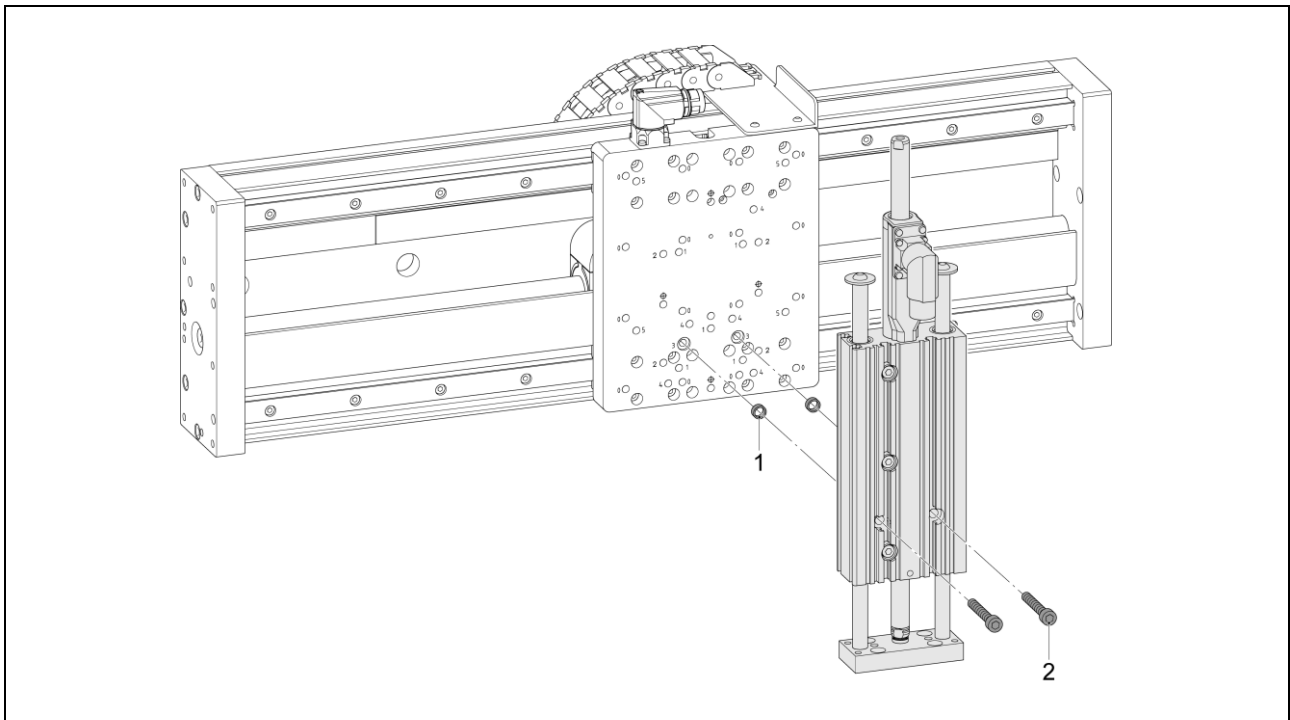
**5.2.3 E01-37S Guide with F01-48 Guides on Y-Axes**



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	3	M6x30 ISO 4762	8.6
2.	1	Parallel Pins Ø5h6x20 ISO 8734	-

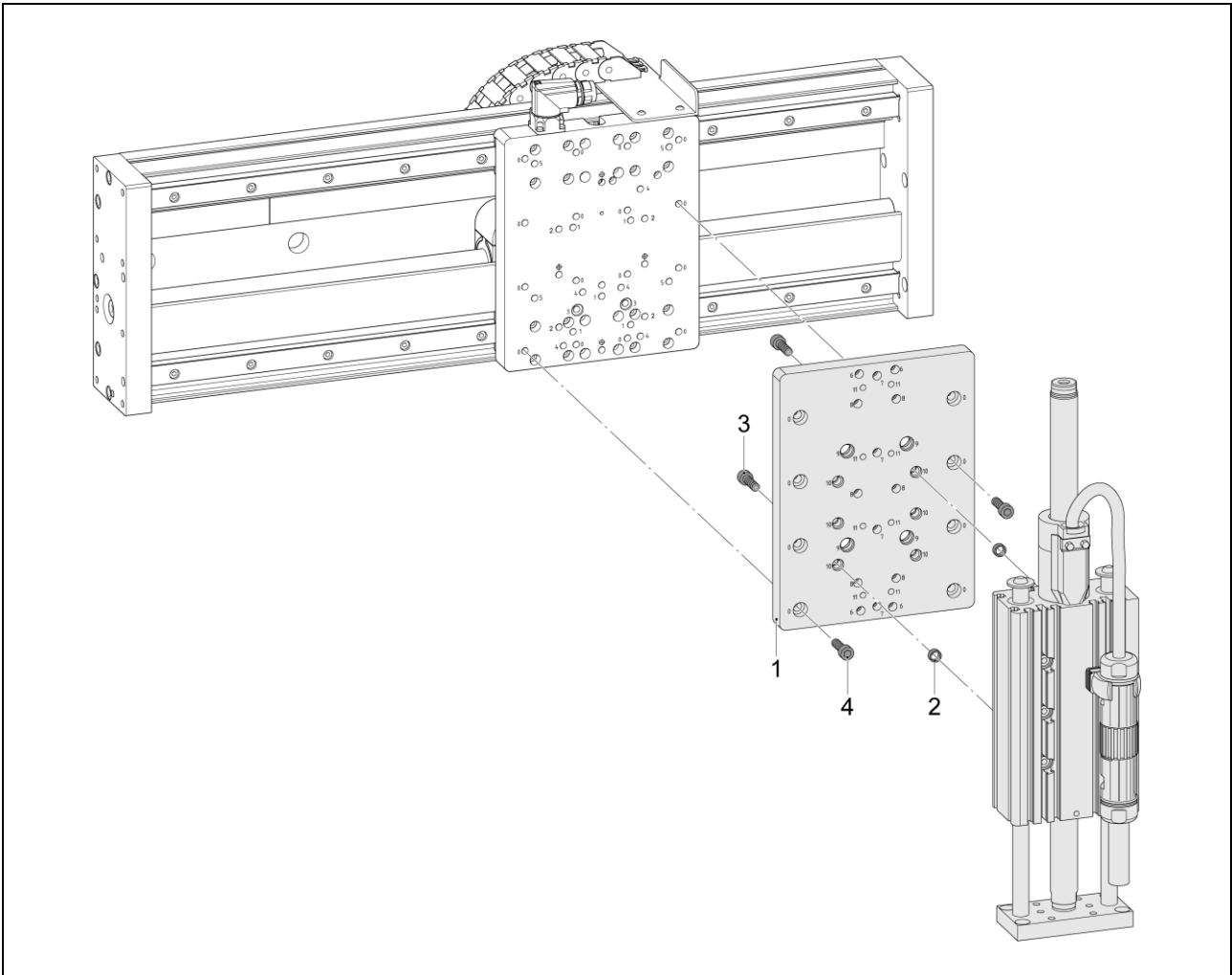
### 5.3 Mounting LinMot Guides onto E-Guide

#### 5.3.1 Linear Guides H01-23 and B01-23



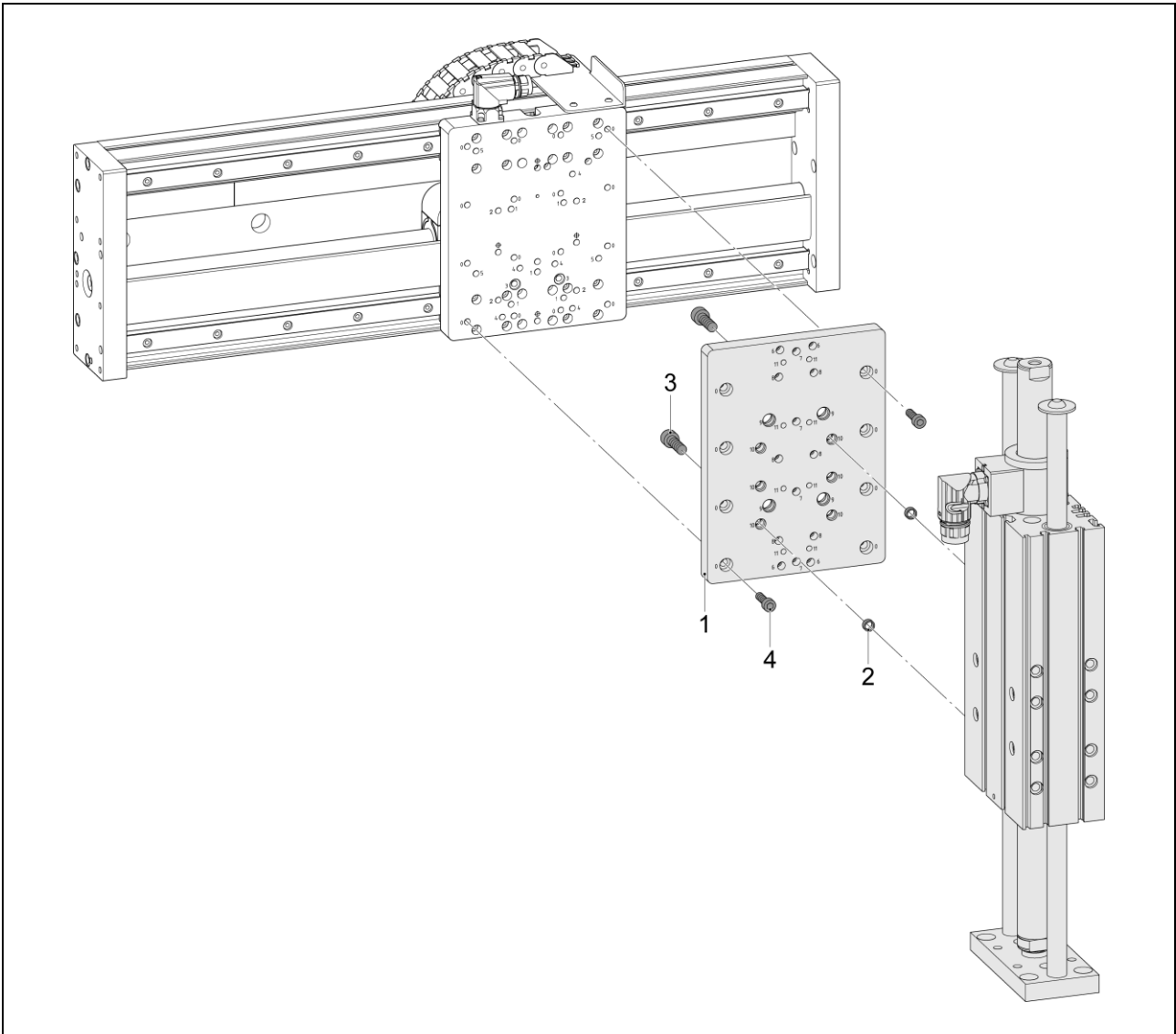
Pos.	Pcs.	Description	Tightening torque [Nm]
1.	2	Centering sleeves Item-No. <a href="#">0150-3251</a>	-
2.	2	M6x40 DIN912	8.6

**5.3.2 Linear Guides H01-37 and B01-37**



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Centering sleeves Item-No. <a href="#">0150-3251</a>	-
3.	2	M6x20 ISO 4762	8.6
4.	8	M6x20 ISO 4762	8.6

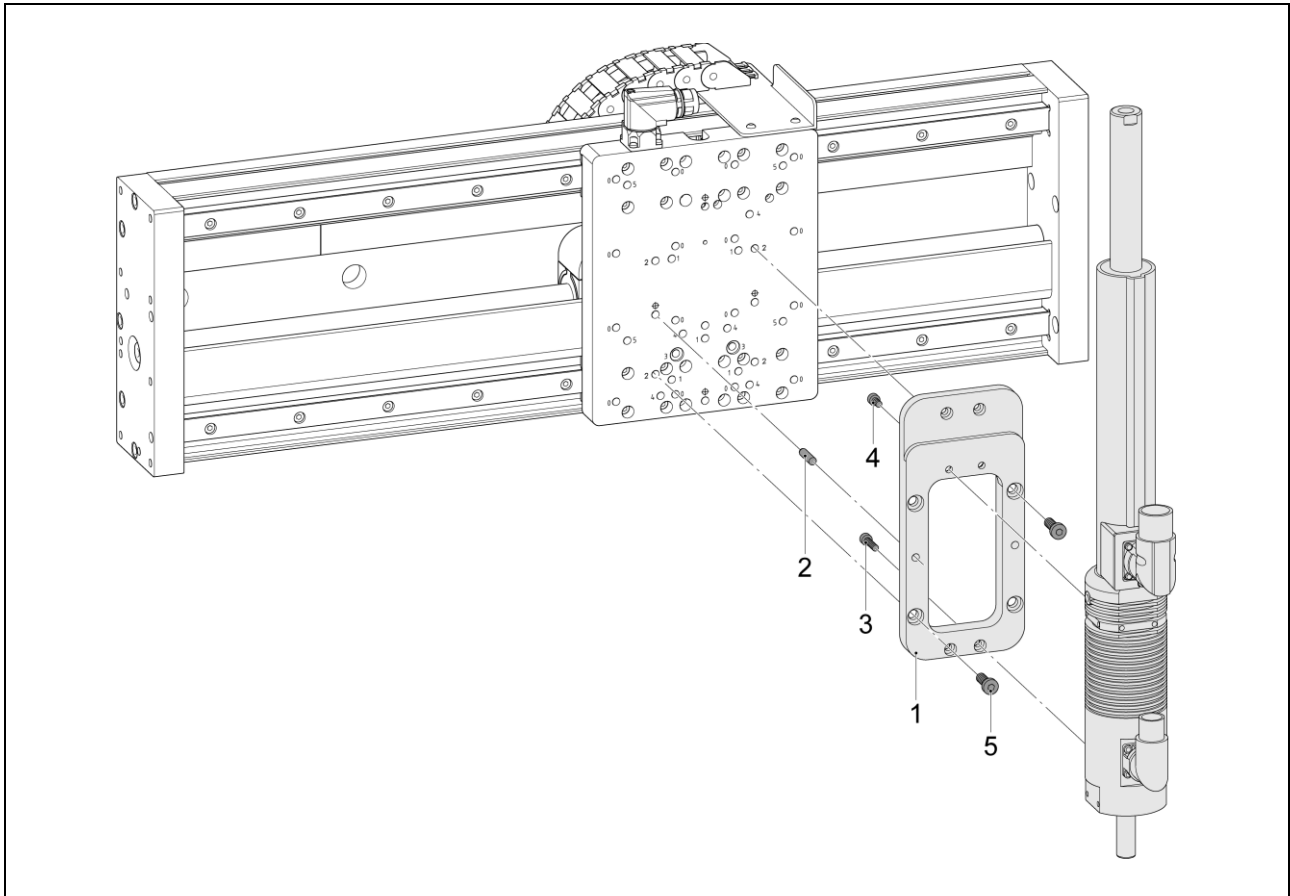
**5.3.3 Linear Guides H01-48 and B01-48**



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Centering sleeves	-
3.	2	M8x20 ISO 4762	21
4.	8	M6x20 ISO 4762	8.6

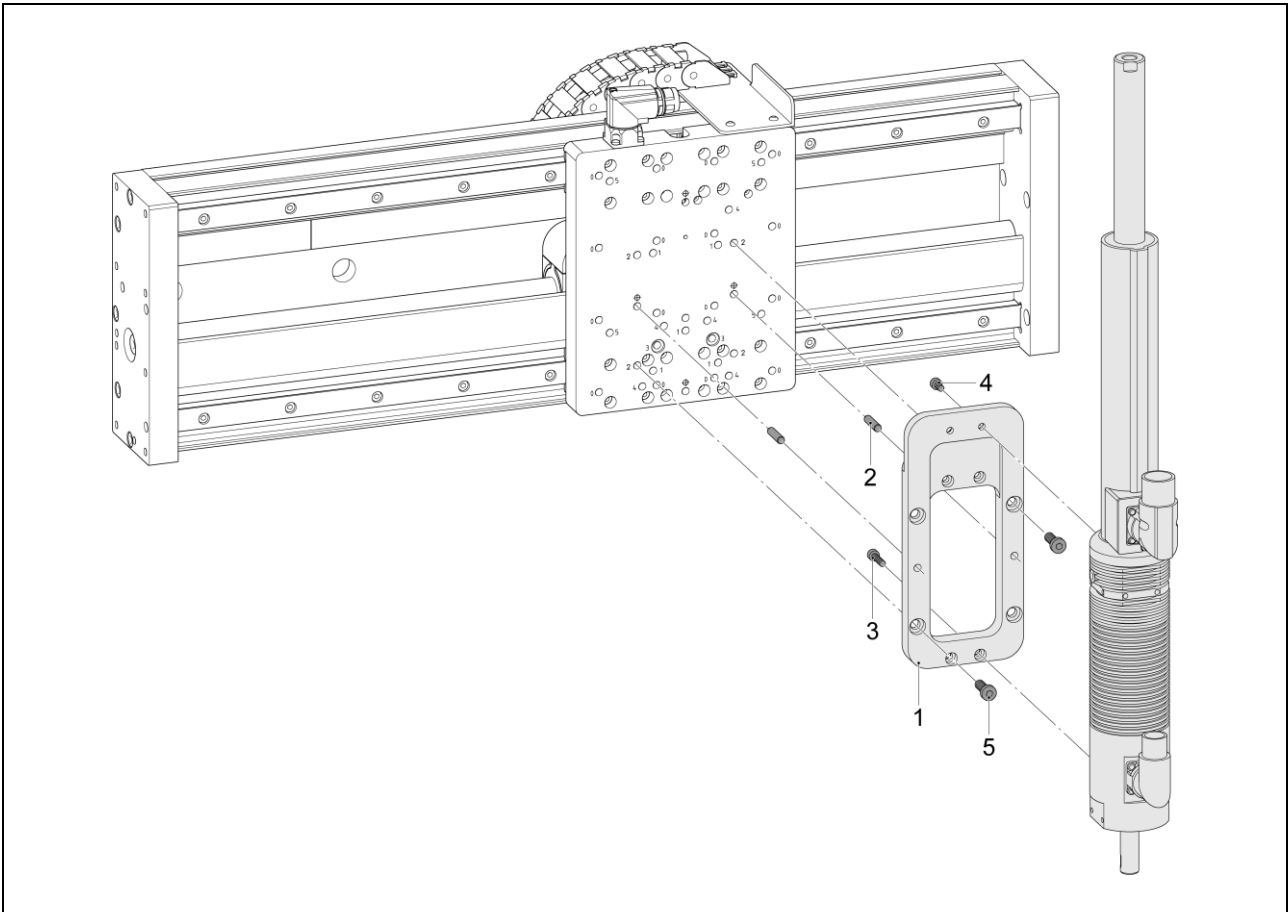
## 5.4 Mounting LinMot Linear Rotary Motors onto E-Guide

### 5.4.1 Linear Rotary Motors PR01-52x40-80



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-
3.	2	M4x14 ISO 4762	2.6
4.	2	M4x8 ISO 4762	2.6
5.	4	M6x16 ISO 4762	8.6

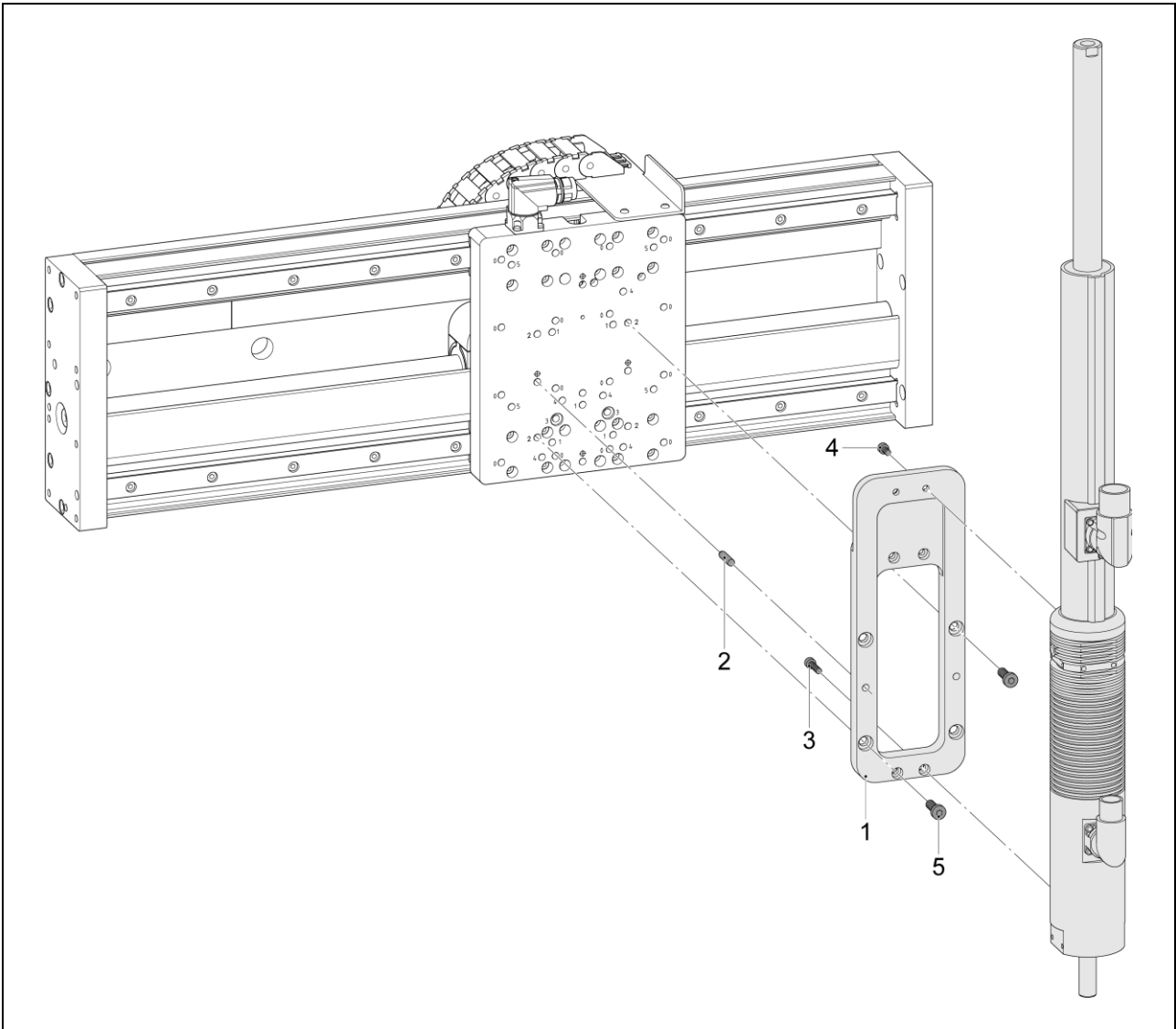
**5.4.2 Linear Rotary Motors PR01-52x60-100**



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-
3.	2	M4x14 ISO 4762	2.6
4.	2	M4x8 ISO 4762	2.6
5.	4	M6x16 ISO 4762	8.6

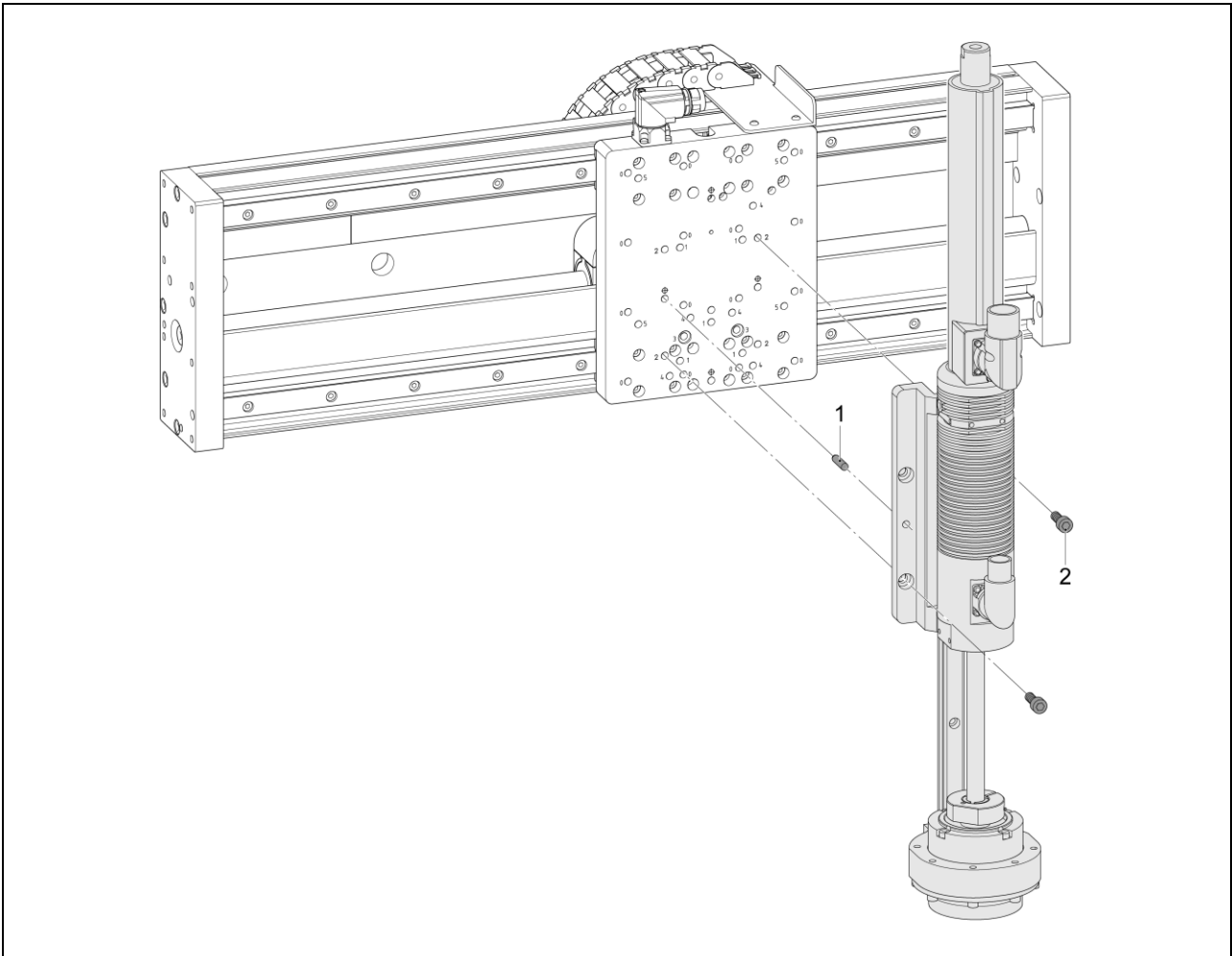


**5.4.3 Linear Rotary Motors PR01-52x60-150**



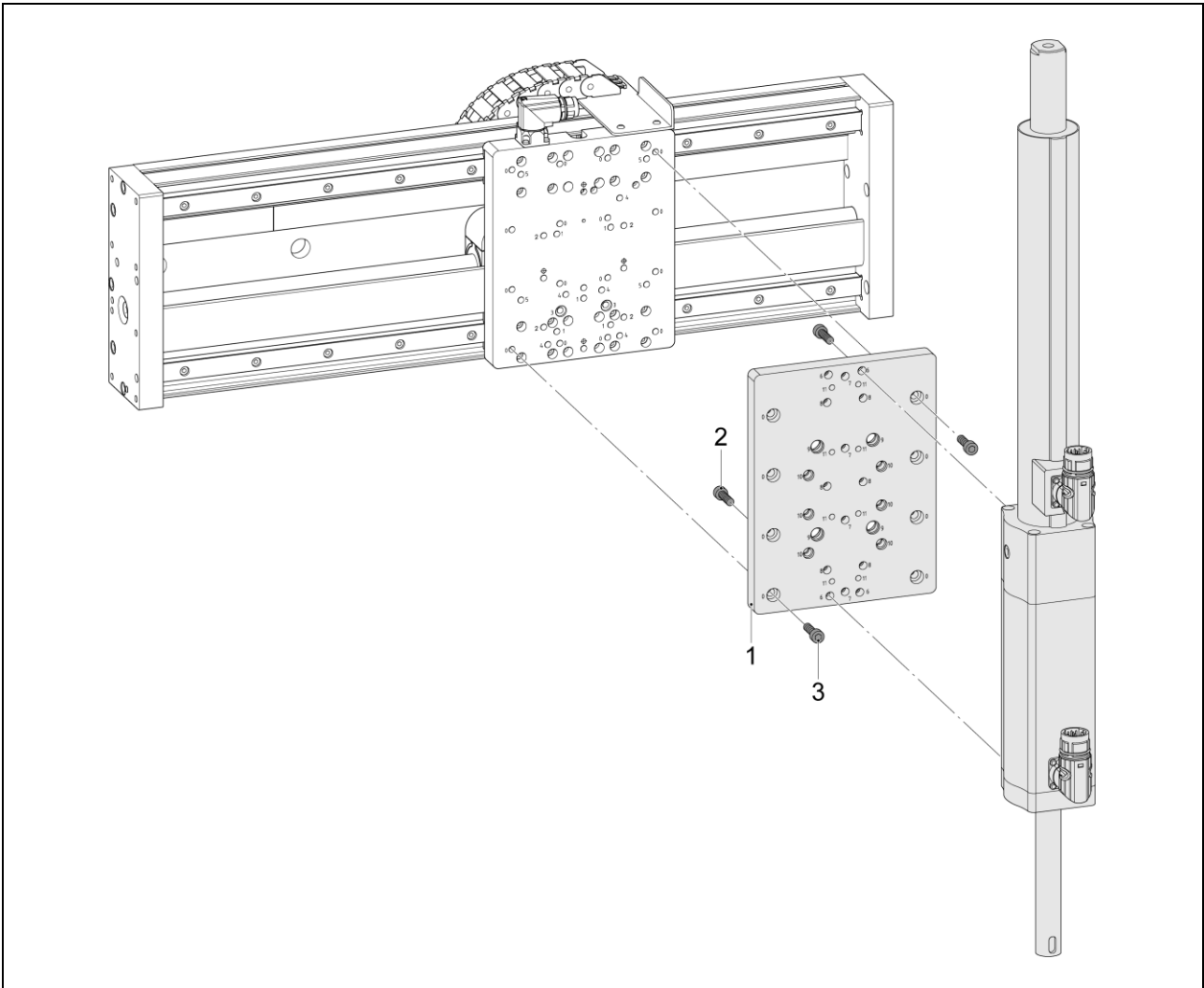
Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-
3.	2	M4x14 ISO 4762	2.6
4.	2	M4x8 ISO 4762	2.6
5.	4	M6x16 ISO 4762	8.6

**5.4.4 Linear Rotary Motors PR01-52x60 with Gearbox**



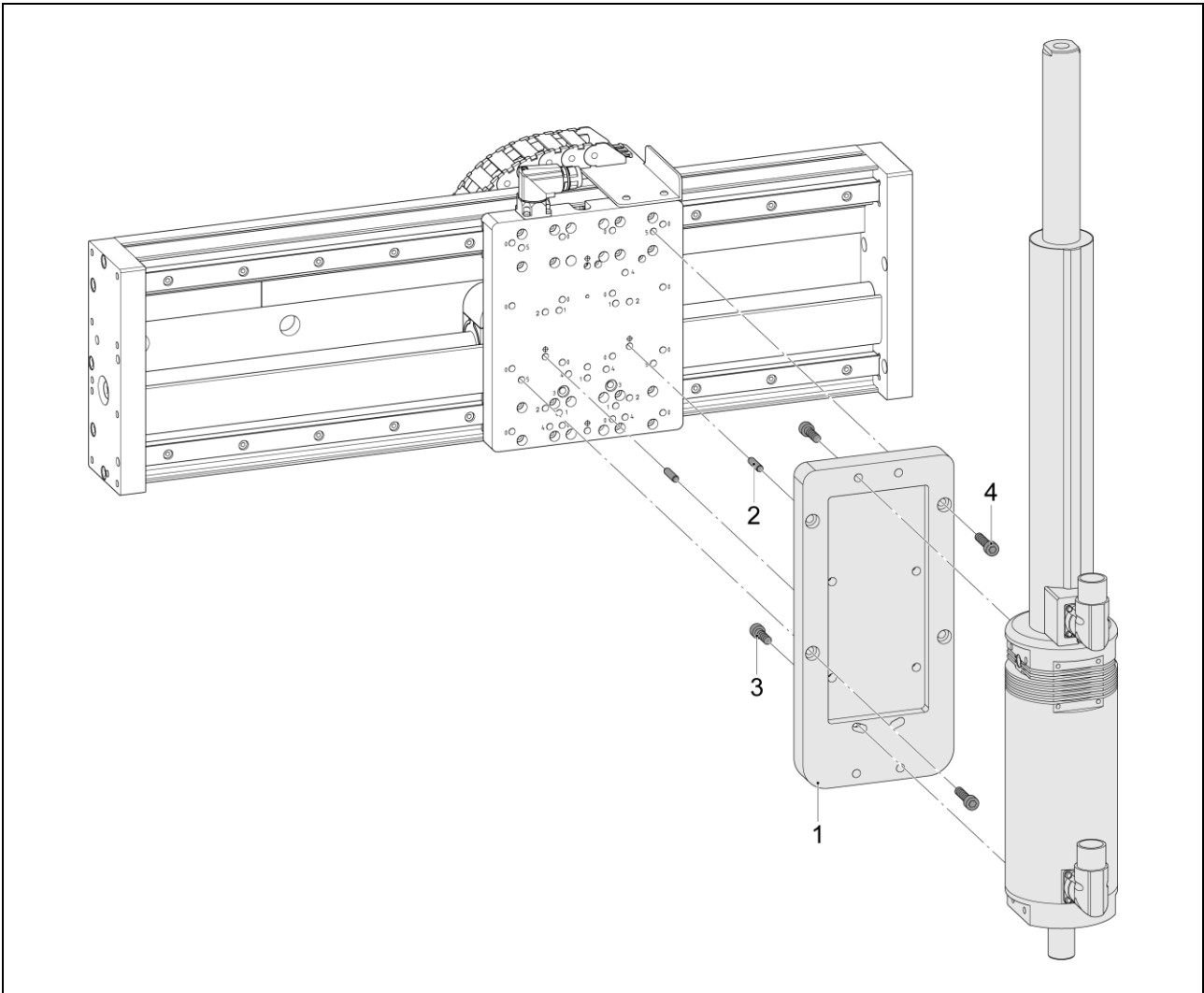
Pos.	Pcs.	Description	Tightening torque [Nm]
1.	2	Parallel Pins Ø5h6x20 ISO 8734	-
2.	4	M6x16 ISO 4762	8.6

**5.4.5 Linear Rotary Motors PR01-70**



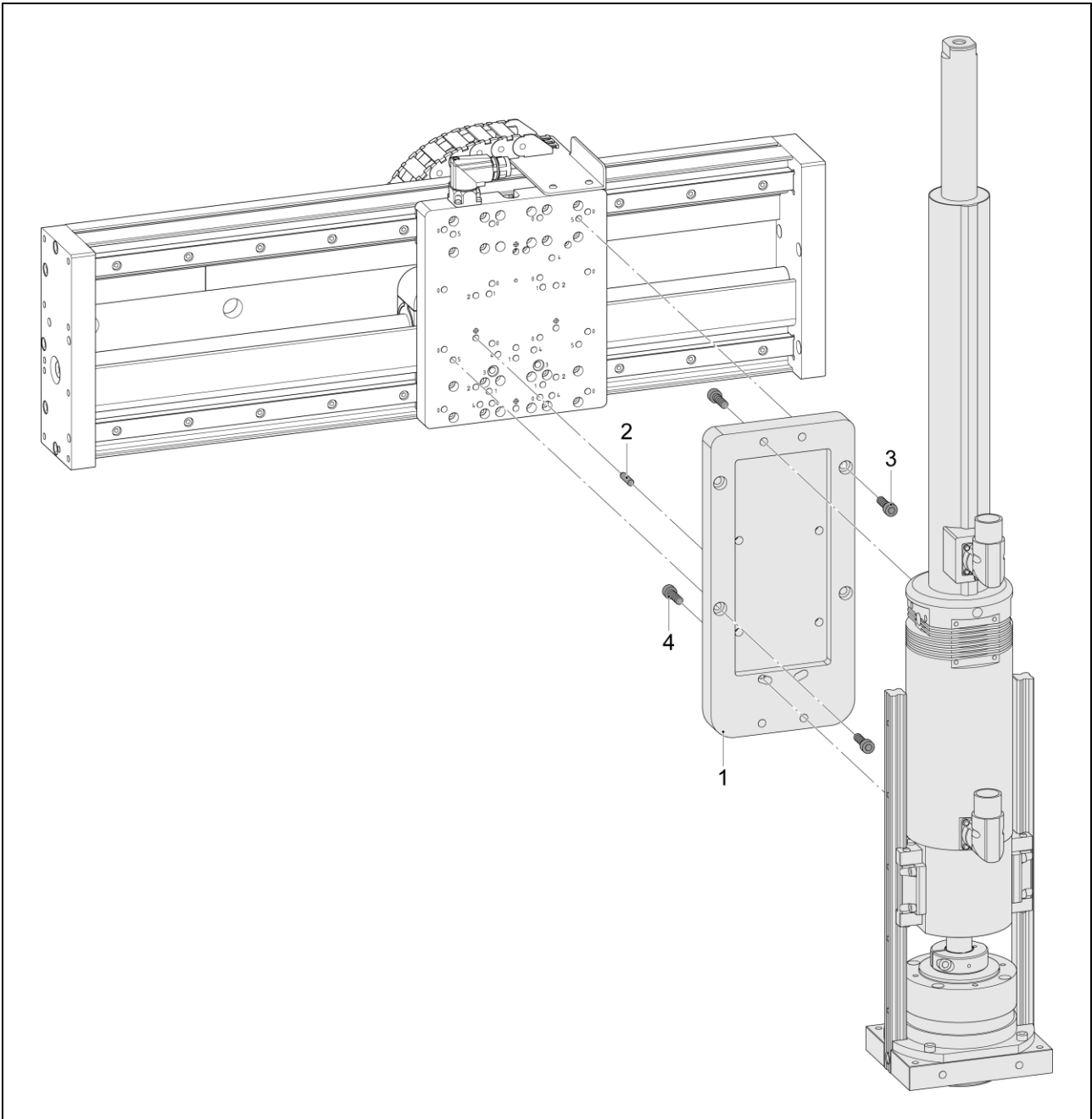
Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	4	M6x20 ISO 4762	8.6
3.	8	M6x20 ISO 4762	8.6

**5.4.6 Linear Rotary Motors PR01-84**



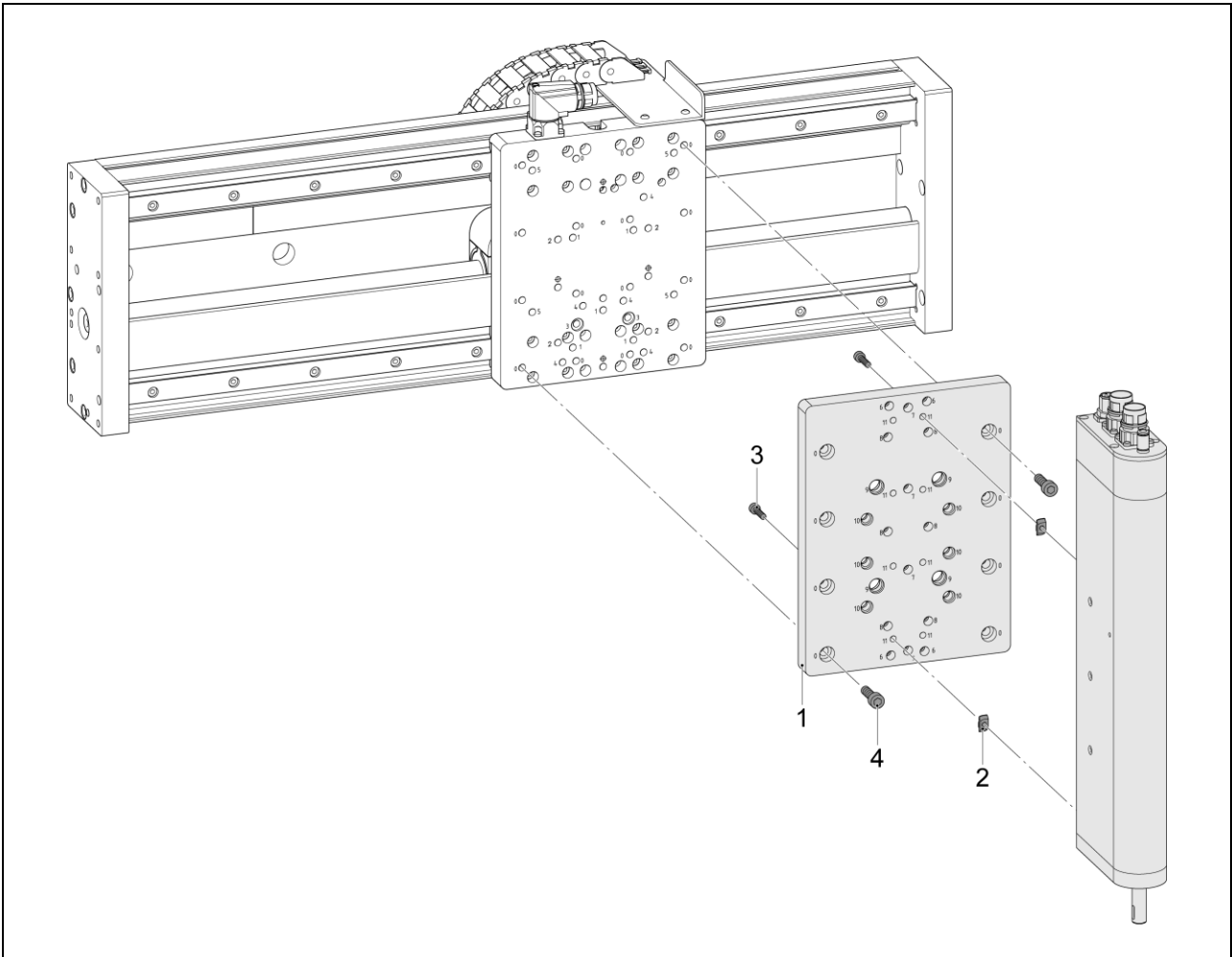
Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-
3.	4	M6x20 ISO 4762	8.6
4.	4	M6x30 ISO 4762	8.6

**5.4.7 Linear Rotary Motors PR01-84 with Gearbox**



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	2	Parallel Pins Ø5h6x20 ISO 8734	-
3.	4	M6x20 ISO 4762	8.6
4.	4	M6x30 ISO 4762	8.6

**5.4.8 Linear Rotary Motors PR02-52**



Pos.	Pcs.	Description	Tightening torque [Nm]
1.	1	Adapter plate	-
2.	6	8 mm M6 T-Nuts	-
3.	6	M6x16 ISO 4762	8.6
4.	8	M6x20 ISO 4762	1.8

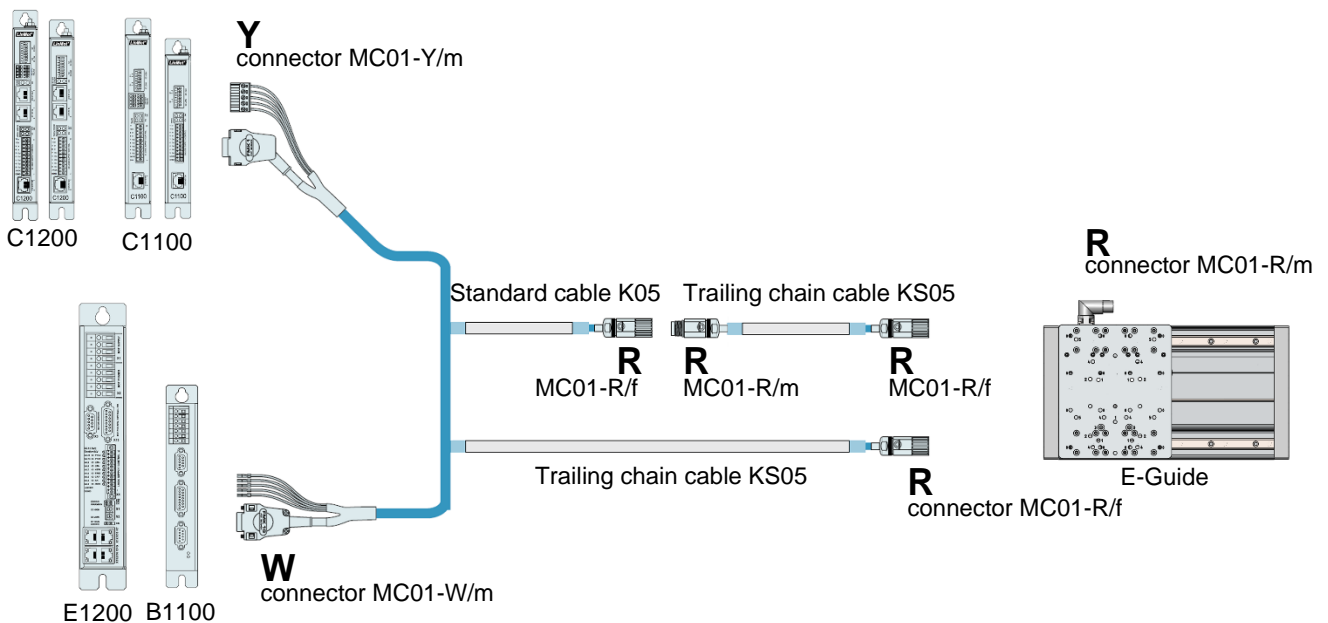
## 6 Electrical connection



Only connect or disconnect the motor connector and sensor cable if no voltage is applied to the servo drive!  
 Only original LinMot cables may be used for wiring the motor and sensor! Even assembled cables may only be manufactured from the original LinMot accessories and must be checked carefully before commissioning!  
 Incorrect motor wiring can damage the motor and/or the servo drive!

### 6.1 Motor cable

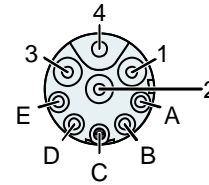
Two types of cables are available for the E-Guides. For the moving part of the E-Guide, only trailing chain cables are available. The standard motor cable is used as a stationary extension between high-flex cable and connector.



	Standard cable	Trailing chain cable
Cable type	K05-04/05	KS05-04/05
Min. bending radius stationary	25 mm (0.98 in)	30 mm (1.18 in)
Min. bending radius moving	Not suitable for applications with moving motor cable	60 mm No torsion
Approval	Cable material acc. UL	UL / CSA 300V
Material wire insulation	TPE-U	TPE-E
Material cable sheath	PUR	PUR
Oil resistance	very good	very good
Chemical resistance (to acids, alkalis, solvents, hydraulic fluid)	good	good
Outdoor durability	very good	very good
Flammability	flame retardant	flame retardant

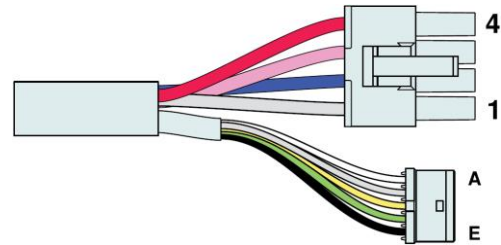
### 6.2 R Connector Wiring Mounting Plate

Connector Wiring	R-Connector	Wire Color
Phase 1+ / Ph A	1	red
Phase 1- / Ph B	2	pink
Phase 2+ / Ph C	3	blue
Phase 2- / (-)	4	grey
+5V	A	white
GND	B	inner shield
Sensor Sinus	C	yellow
Sensor Cosinus	D	green
Temp. Sensor	E	black



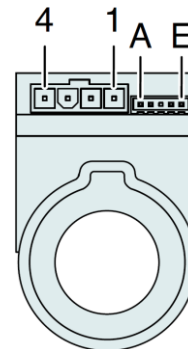
### 6.3 N Connector wiring Mounting Plate

Connector Wiring	N-Connector	Wire Color
Phase 1+ / Ph A	1	red
Phase 1- / Ph B	2	pink
Phase 2+ / Ph C	3	blue
Phase 2- / (-)	4	grey
+5V	A	white
GND	B	inner shield
Sensor Sinus	C	yellow
Sensor Cosinus	D	green
Temp. Sensor	E	black



### 6.4 N Connector wiring PS01-37Sx120 Stator

Connector Wiring	N-Connector	Wire Color
Phase 1+ / Ph A	1	red
Phase 1- / Ph B	2	pink
Phase 2+ / Ph C	3	blue
Phase 2- / (-)	4	grey
+5V	A	white
GND	B	inner shield
Sensor Sinus	C	yellow
Sensor Cosinus	D	green
Temp. Sensor	E	black





## 7 Start-up



It is recommended to use the newest version of LinMot-Talk software. You can find more detailed information about LinMot-Talk software in LinMot Talk User Manual that can be downloaded on [www.linmot.com](http://www.linmot.com).

### 7.1 LinMot Drive Setup

The various parameters for the linear motor are set on the drive side using the corresponding motor wizard in the LinMot Talk configuration software. Each stator is electrically independent unit and if multiple stators are used on the same guide a specific commissioning order is not required.

### 7.2 Setting the parameters

Logged into the drive, you will find all the parameters to be set in the LinMot-Talk's software motor wizard. You can find the necessary information such as moving mass and friction of the carriage kits in the chapter Technical Data Carriage Kit.

Proceed through wizard step-by-step following more detailed instructions in LinMot-Talk user manual, which can be downloaded from [www.linmot.com](http://www.linmot.com).

#### Defining payload

Together with the moving masses, the mass of the load must be counted in. In some applications, the mass of the cables must be considered.

#### PID Controller

Recommended values are higher than default values in the LinMot talk wizard. By heavier payload, increase the values if needed.

#### Achieving full stroke length

To use the full mechanical stroke, it is necessary to change "Minimal Position" and "Maximal Position" values in Position Limits tab. These can be found under Motion Control SW. Alternatively, you can disable the "Maximal Position" detection in the Error Detection Mask.

### 7.3 Master-Slave Configuration

In gantry designs, the master-slave configuration is recommended on motors with parallel axes, that are moving the middle-axis. Refer to MasterSlave Application user manual for detailed instructions and supported drives.

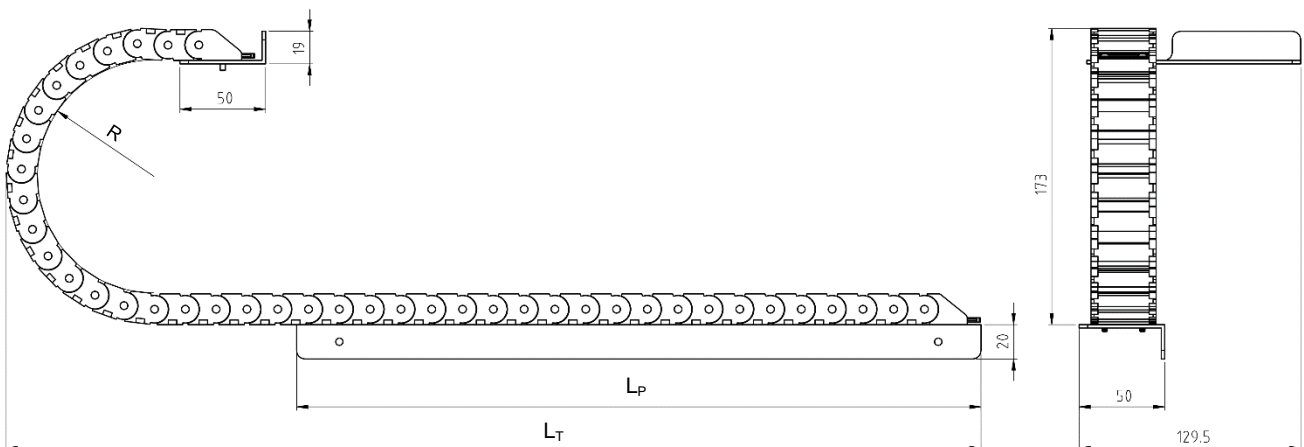
## 8 Accessories

### 8.1 Trailing Chain Kits (with mounting brackets and screws)



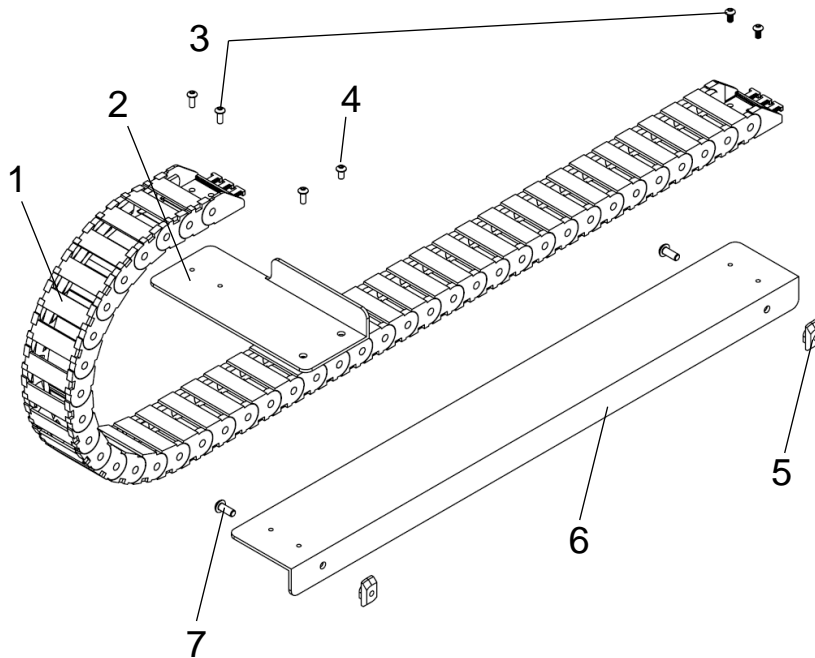
Item	Description	Item-No.
E01-TC300-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2970</a>
E01-TC400-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2971</a>
E01-TC500-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2972</a>
E01-TC600-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2973</a>
E01-TC800-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2974</a>
E01-TC1000-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2975</a>
E01-TC1200-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2976</a>
E01-TC1400-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2977</a>
E01-TC1600-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2978</a>
E01-TC2000-37	Trailing Chain Kit for E01-37 (Brackets and Trailing Chain)	<a href="#">0150-2979</a>

#### 8.1.1 Dimensions



Item	Item-No.	Assumed Trailing chain radius R [mm (inch)]	Lower angled-plate length L <sub>P</sub> [mm (inch)]	Trailing Chain kit total length L <sub>T</sub> [mm (inch)]
E01-TC300-37	<a href="#">0150-2970</a>	68 (2.68)	250 (9.84)	420 (16.54)
E01-TC400-37	<a href="#">0150-2971</a>	68 (2.68)	250 (9.84)	420 (16.54)
E01-TC500-37	<a href="#">0150-2972</a>	68 (2.68)	250 (9.84)	420 (16.54)
E01-TC600-37	<a href="#">0150-2973</a>	68 (2.68)	300 (11.81)	470 (18.5)
E01-TC800-37	<a href="#">0150-2974</a>	68 (2.68)	400 (15.75)	570 (22.44)
E01-TC1000-37	<a href="#">0150-2975</a>	68 (2.68)	500 (19.69)	670 (26.38)
E01-TC1200-37	<a href="#">0150-2976</a>	68 (2.68)	600 (23.62)	770 (30.32)
E01-TC1400-37	<a href="#">0150-2977</a>	68 (2.68)	700 (27.65)	870 (34.25)
E01-TC1600-37	<a href="#">0150-2978</a>	68 (2.68)	800 (31.5)	970 (38.19)
E01-TC2000-37	<a href="#">0150-2979</a>	68 (2.68)	1000 (35.43)	1170 (46.06)

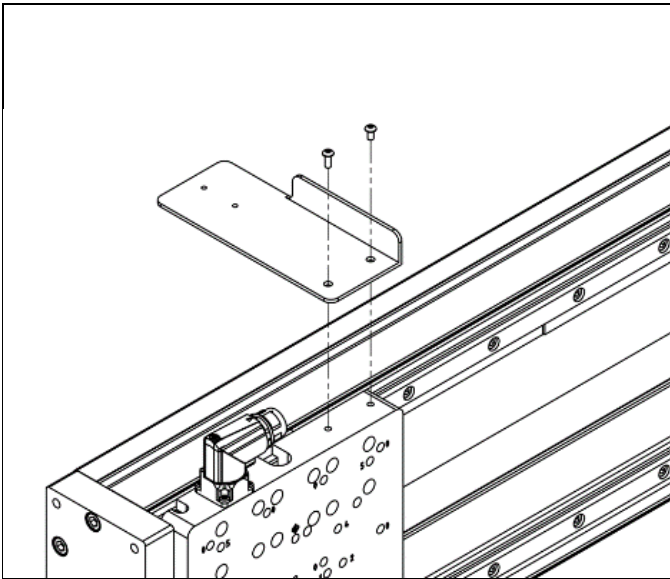
### 8.1.2 Parts List Trailing Chain Kit



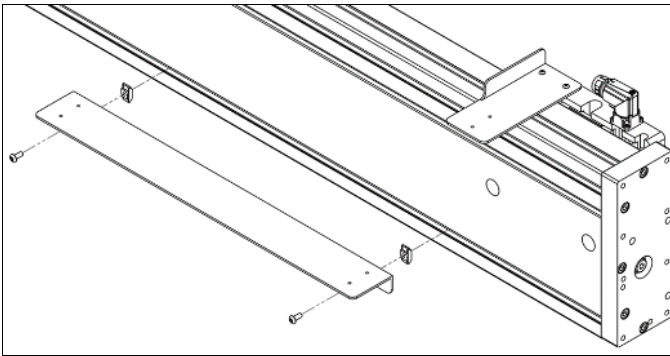
		E01-TC300-37	E01-TC400-37	E01-TC500-37	E01-TC600-37	E01-TC800-37
1	Trailing chain	0160-0982	0160-0971	0160-0972	0160-0972	0160-0973
2	Trailing chain adapter	0160-0493	0160-0493	0160-0493	0160-0493	0160-0493
3	Socket pan head screws	ISO14583 M3x6	ISO14583 M3x6	ISO14583 M3x6	ISO14583 M3x6	ISO14583 M3x6
4	Socket pan washer screws	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10
5	Nut N8/M4	0150-2189	0150-2189	0150-2189	0150-2189	0150-2189
6	Trailing chain L-Profile	0160-2565	0160-2565	0160-2565	0160-2544	0160-2545
7	Socket pan washer screws	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10

		E01-TC1000-37	E01-TC1200-37	E01-TC1400-37	E01-TC1600-37	E01-TC2000-37
1	Trailing chain	0160-2546	0160-0975	0160-0976	0160-1011	0160-1012
2	Trailing chain adapter	0160-0493	0160-0493	0160-0493	0160-0493	0160-0493
3	Socket pan head screws	ISO14583 M3x6	ISO14583 M3x6	ISO14583 M3x6	ISO14583 M3x6	ISO14583 M3x6
4	Socket pan washer screws	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10
5	Nut N8/M4	0150-2189	0150-2189	0150-2189	0150-2189	0150-2189
6	Trailing chain L-Profile	0160-0974	0160-0493	0160-2548	0160-2549	0160-2554
7	Socket pan washer screws	BN 5128 M4x10	BN 5128 M4x10	BN 5128 M4x10	BN 5128 4x10	BN 5128 M4x10

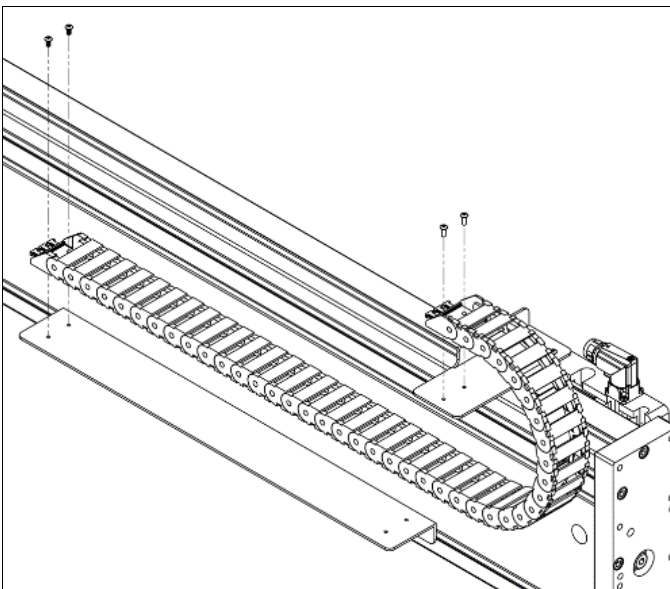
### 8.1.3 Assembling instructions



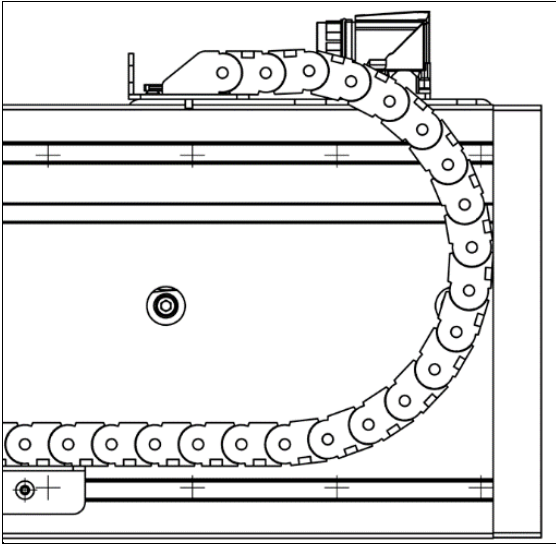
- a. Mount adapter plate onto carriage kit, use screw-locking compound.



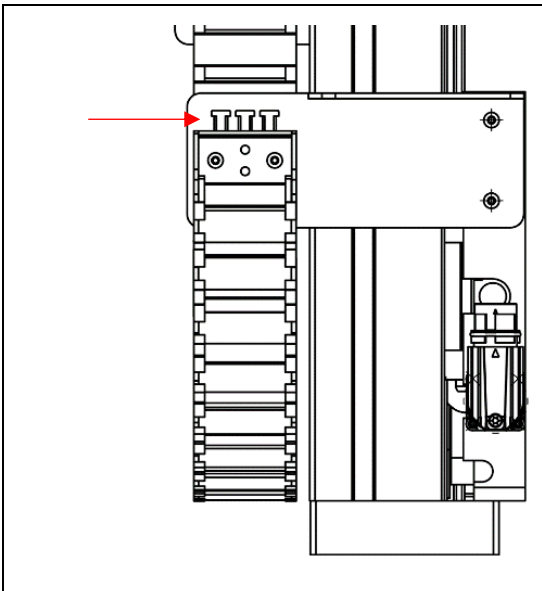
- b. Mount the lower angled plate into the lower part of the guide aluminium profile using T-Nuts. Longer lower angled plates have in the centre an additional mounting point.



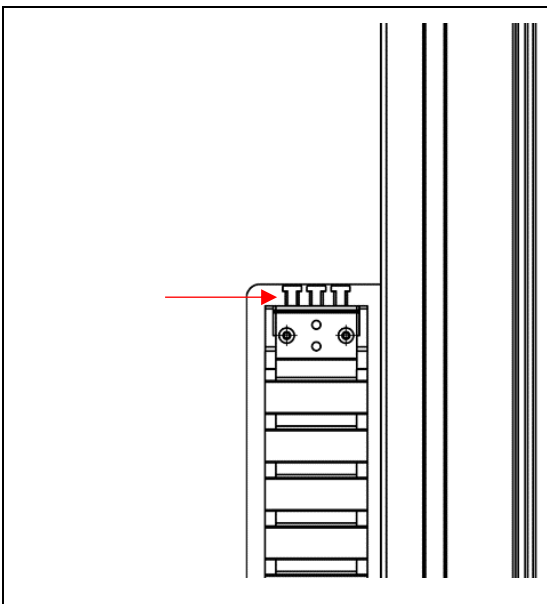
- c. Put cable into the trailing chain and mount the trailing chain onto both plates, use screw-locking compound. Connect the cable to the connector on the adapter.



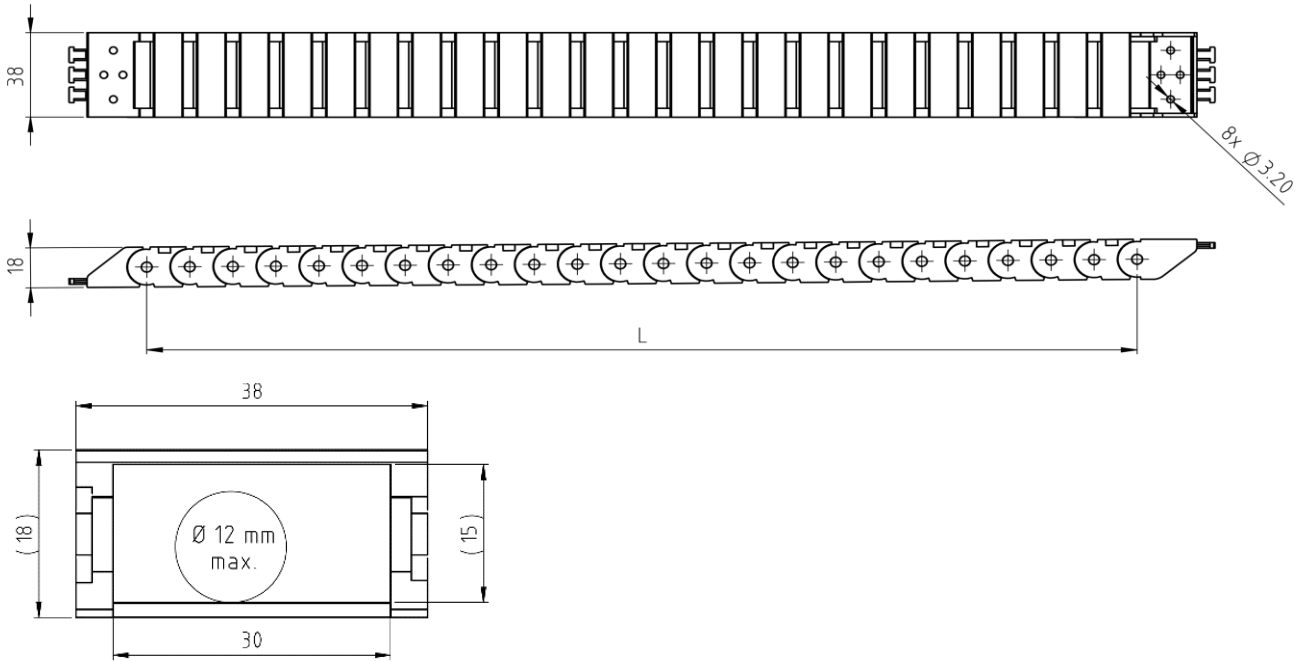
- d. Align the lower angled plate so, that the trailing chain with cable does not stand out from profile and that the allowed cable bending radius is maintained. The stator must be able to achieve the full required mechanical stroke.



- e. Fix the cable on both sides onto trailing chain using cable ties.



## 8.2 Trailing Chains (without mounting brackets and screws)



Item	Description	Chain length L [mm (inch)]	Item-No.
F01h-KS300	Trailing Chain	213.75 (8.42)	<a href="#">0160-0983</a>
F01h-KS400	Trailing Chain	267.75 (10.54)	<a href="#">0160-0981</a>
F01h-KS500	Trailing Chain	303.75 (11.96)	<a href="#">0160-0982</a>
F01h-KS600	Trailing Chain	393.75 (15.5)	<a href="#">0160-0971</a>
F01h-KS800	Trailing Chain	501.75 (19.75)	<a href="#">0160-0972</a>
F01h-KS1000	Trailing Chain	609.75 (24.01)	<a href="#">0160-0973</a>
F01h-KS1200	Trailing Chain	717.75 (28.26)	<a href="#">0160-0974</a>
F01h-KS1400	Trailing Chain	825.75 (32.51)	<a href="#">0160-0975</a>
F01h-KS1600	Trailing Chain	933.75 (36.76)	<a href="#">0160-0976</a>
F01h-KS1800	Trailing Chain	1041.75 (41.01)	<a href="#">0160-1011</a>
F01h-KS2000	Trailing Chain	1149.75 (45.27)	<a href="#">0160-0977</a>
F01h-KS2200	Trailing Chain	1257.75 (49.52)	<a href="#">0160-1012</a>
F01h-KS2400	Trailing Chain	1365.75 (53.77)	<a href="#">0160-1013</a>

### 8.3 Motor cables



Item	Description	Item-No.
KS05-R/R-2	Trailing Chain Cable R/R, 2m	<a href="#">0150-1838</a>
KS05-R/R-4	Trailing Chain Cable R/R, 4m	<a href="#">0150-1839</a>
KS05-Y/R-2	Motor Cable Y/R, 2m	<a href="#">0150-2421</a>
KS05-Y/R-4	Motor Cable Y/R, 4m	<a href="#">0150-2422</a>
KS05-Y/R-6	Motor Cable Y/R, 6m	<a href="#">0150-2423</a>
KS05-Y/R-8	Motor Cable Y/R, 8m	<a href="#">0150-2424</a>
K05-W/R-2	Motor Cable W/R, 2m	<a href="#">0150-2119</a>
K05-W/R-3	Motor Cable W/R, 3m	<a href="#">0150-2459</a>
K05-W/R-3.5	Motor Cable W/R, 3.5m	<a href="#">0150-2481</a>
K05-W/R-4	Motor Cable W/R, 4m	<a href="#">0150-2120</a>
K05-W/R-6	Motor Cable W/R, 6m	<a href="#">0150-2121</a>
K05-W/R-8	Motor Cable W/R, 8m	<a href="#">0150-2122</a>
K05-W/R-10	Motor Cable W/R, 10m	<a href="#">0150-2132</a>
K05-W/R-	Motor Cable W/R, custom length	<a href="#">0150-3262</a>

### 8.4 Incremental External Sensor



External sensor kit consists of external sensor, mounting brackets and screws. Magnetic strip and additional cables must be ordered separately.

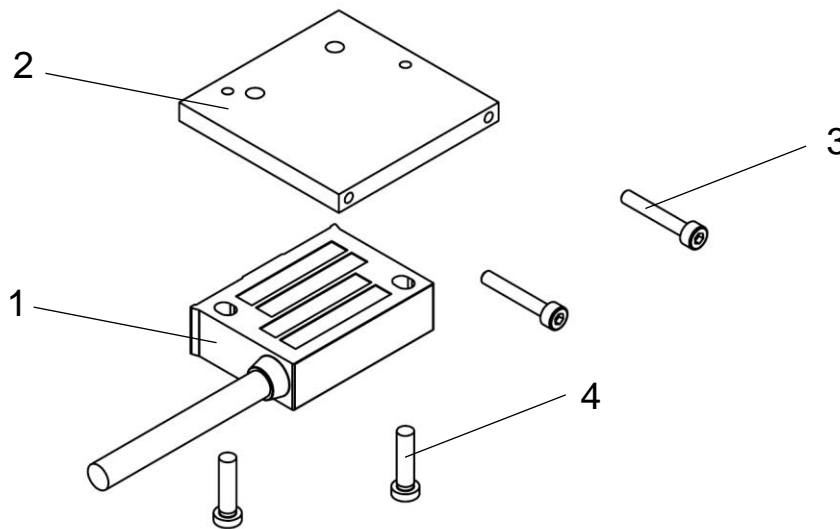
Item	Description	Item-No.
E01-37S-SK/D-2	External Sensor kit for E-Guide, 2m (incremental)	<a href="#">0150-2942</a>



You can find more detailed information about external sensor such as detailed mechanical dimensions, counting directions, installation alignment and connector wiring in the external sensor data sheet.

**Due to installation and alignment difficulty, it is highly recommended to order the external sensor kit together with the guide.**

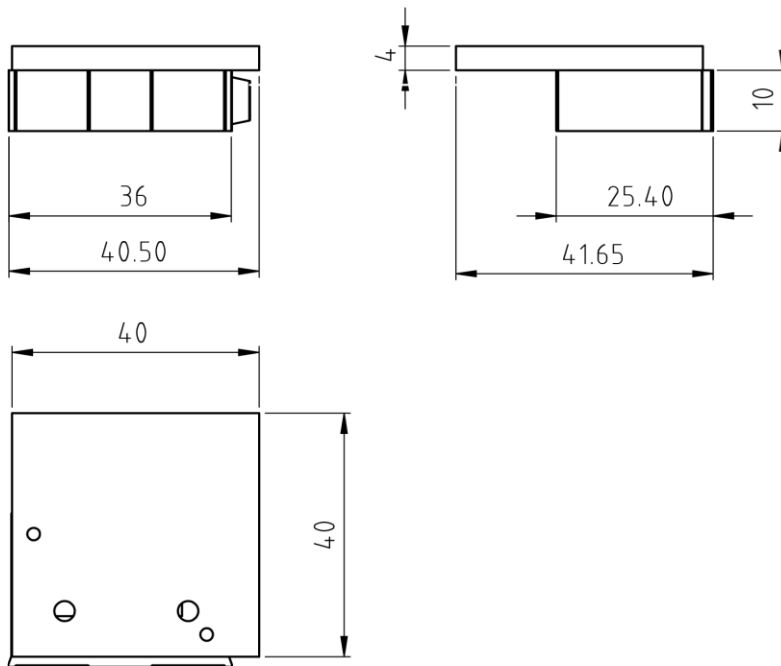
#### 8.4.1 Parts List Incremental External Sensor Kit



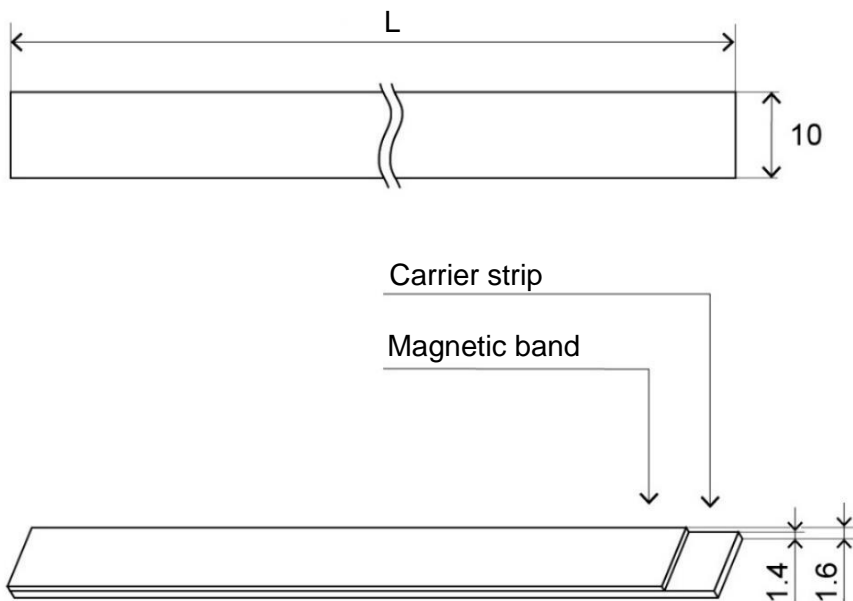
	Description	Item-No.
1	Magnet sensor MS01-1/D	0150-1840
2	Sensor adapter	0160-0067
3	M2.5x16 / ISO 7046-2	
4	M2.5x10 / ISO 14583	
-	Cable clamp (not pictured)	0160-0505
-	M2.5x6 / ISO 7046-2 (not pictured)	



**8.4.2 Dimensions**



**8.4.3 Magnetic Strips for Incremental External Sensor**



Item	Description	Strip length L [mm (inch)]	Item-No.
F01-MB300	Magnetic strip for E/F-Guide (incremental)	280 (11.02)	<a href="#">0150-5454</a>
F01-MB400	Magnetic strip for E/F-Guide (incremental)	380 (14.96)	<a href="#">0150-5451</a>
F01-MB500	Magnetic strip for E/F-Guide (incremental)	480 (18.9)	<a href="#">0150-5452</a>
F01-MB600	Magnetic strip for E/F-Guide (incremental)	580 (22.83)	<a href="#">0150-5431</a>
F01-MB800	Magnetic strip for E/F-Guide (incremental)	780 (30.71)	<a href="#">0150-5432</a>
F01-MB1000	Magnetic strip for E/F-Guide (incremental)	980 (38.58)	<a href="#">0150-5433</a>
F01-MB1200	Magnetic strip for E/F-Guide (incremental)	1180 (46.46)	<a href="#">0150-5434</a>
F01-MB1400	Magnetic strip for E/F-Guide (incremental)	1380 (54.33)	<a href="#">0150-5435</a>
F01-MB1600	Magnetic strip for E/F-Guide (incremental)	1580 (62.2)	<a href="#">0150-5436</a>
F01-MB2000	Magnetic strip for E/F-Guide (incremental)	1980 (77.95)	<a href="#">0150-5437</a>

### 8.4.4 Extender Incremental Sensor Cable

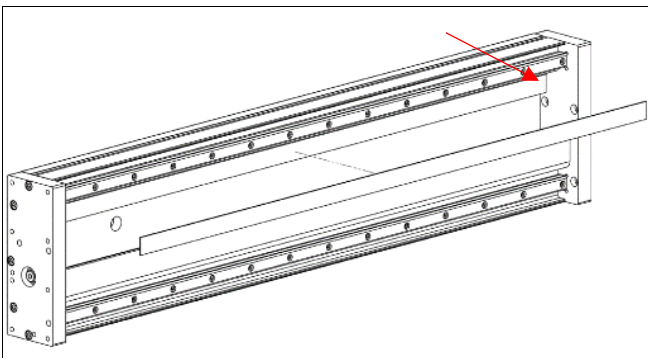


Item	Description	Item-No.
KS025-D15/D-Encoder	Encoder Cable, High Flex, Custom length	<a href="#">0150-3168</a>

### 8.4.5 Assembling instructions



**Due to installation and alignment difficulty, it is highly recommended to order the external sensor kit to be pre-assembled together with the guide.**

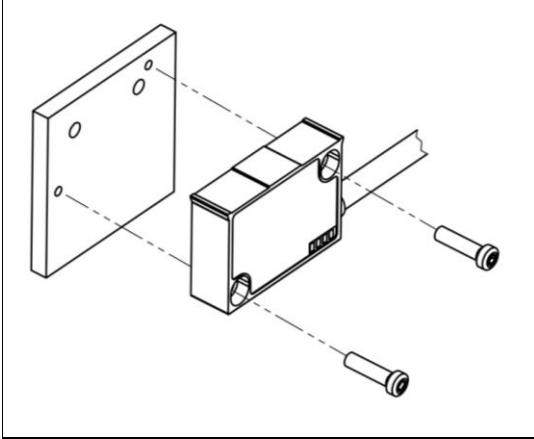


- a. Clean slot on guide profile and then stick the magnetic strip onto the slot.

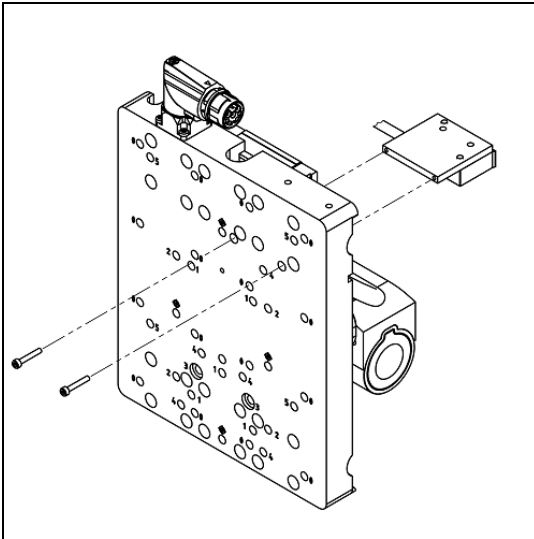
**Start from the right side of the guide (red arrow) and stick the magnet band as near as possible to the right end plate!**



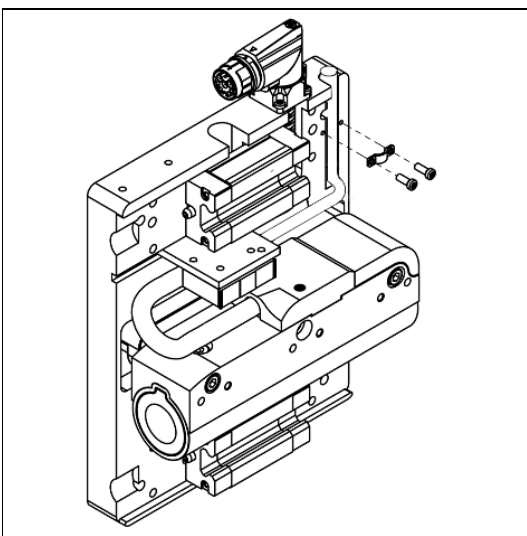
When applying long pieces of magnetic strip do not immediately remove the complete protective foil, but rather peel back a short part from the end sufficient to fix the strip. Now align the strip. As the protective strip is then peeled back and out press the tape firmly onto the mounting surface. A wall paper roller wheel could be used to assist in applying pressure onto the magnetic strip when fixing it in position.



- b. Mount the sensor to the adapter plate, use thread locking compound.



- c. Mount the adapter plate with sensor to the carriage kit, use thread locking compound.



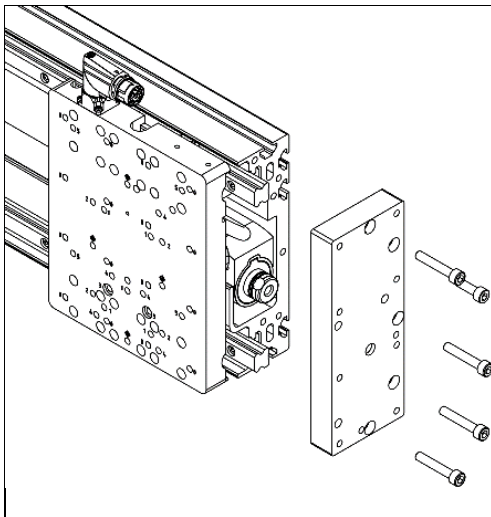
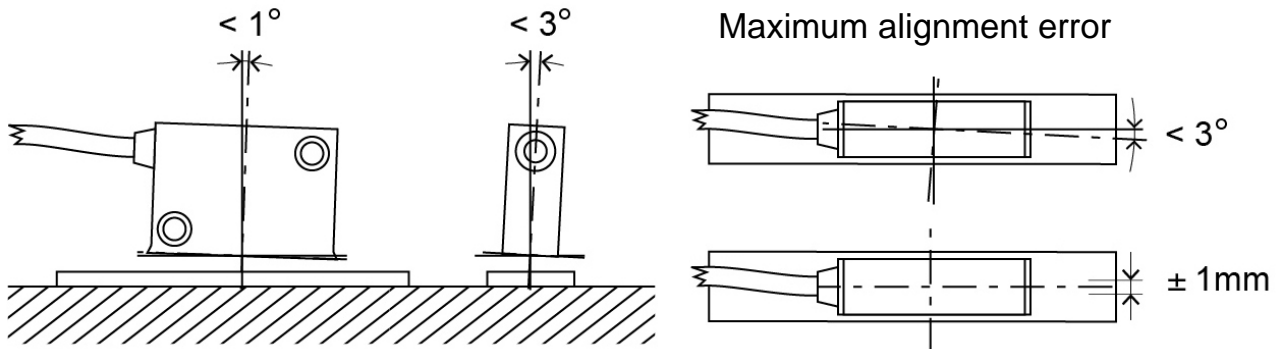
- d. For standard version: Fixate the sensor cable with the cable clamp (pictured).

For heavy duty version: Use the carriage to fixate the sensor cable instead of cable clamp (not pictured).

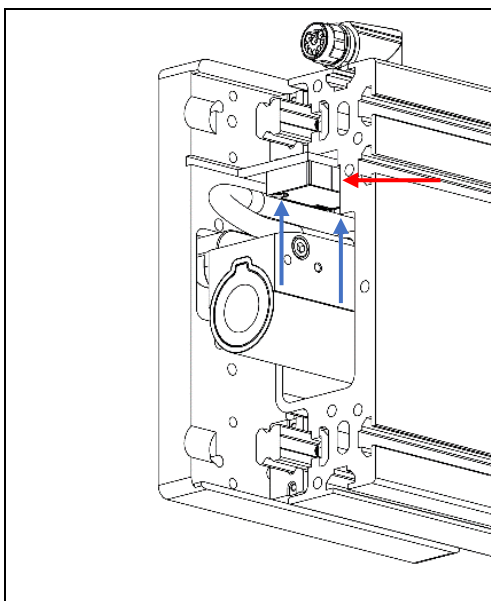
### 8.4.6 Aligning the sensor



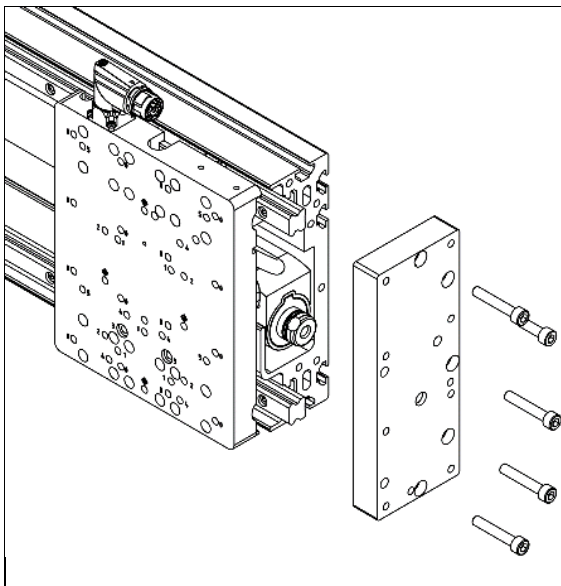
Due to installation and alignment difficulty, it is highly recommended to order the external sensor kit together with the guide.



- a. Remove the end plate on the right side (side on which the slider is not mounted).



- b. Slide the carriage kit to the opened side so that the carriages remain on the carriage rails.
- c. Use the L-wrench to loosen the two screws from the bottom that connect the sensor to the adapter plate (blue vertical arrows).
- d. Put the distance strip from sensor packaging between sensor and magnetic strip (red horizontal arrow).
- e. Tighten the bottom screws (blue vertical arrows) using the L-wrench while pushing the sensor against the distance strip. Do not forget to remove the distance strip.



- f. Mount the end plate back to the E-Guide profile.  
Use thread locking compound.

### 8.5 Absolute External Sensor Kit



External sensor kit consists of external sensor, mounting brackets and screws. Magnetic strip and cables must be ordered separately.

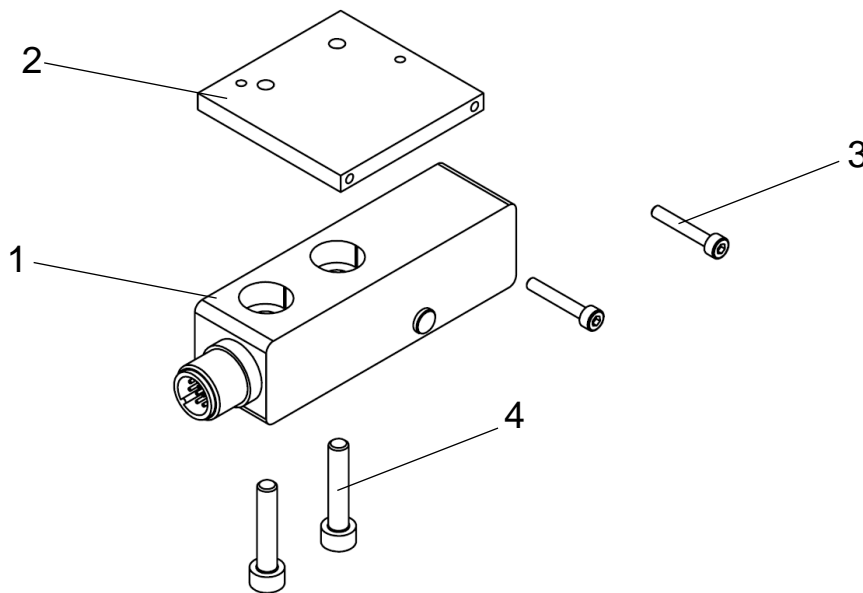
Item	Description	Item-No.
E01-37S-SK/D-SSI	External Sensor kit for E-Guide (absolute)	<a href="#">0150-2943</a>



You can find more detailed information about external sensor such as detailed mechanical dimensions, counting directions, installation alignment and connector wiring in the external sensor data sheet.

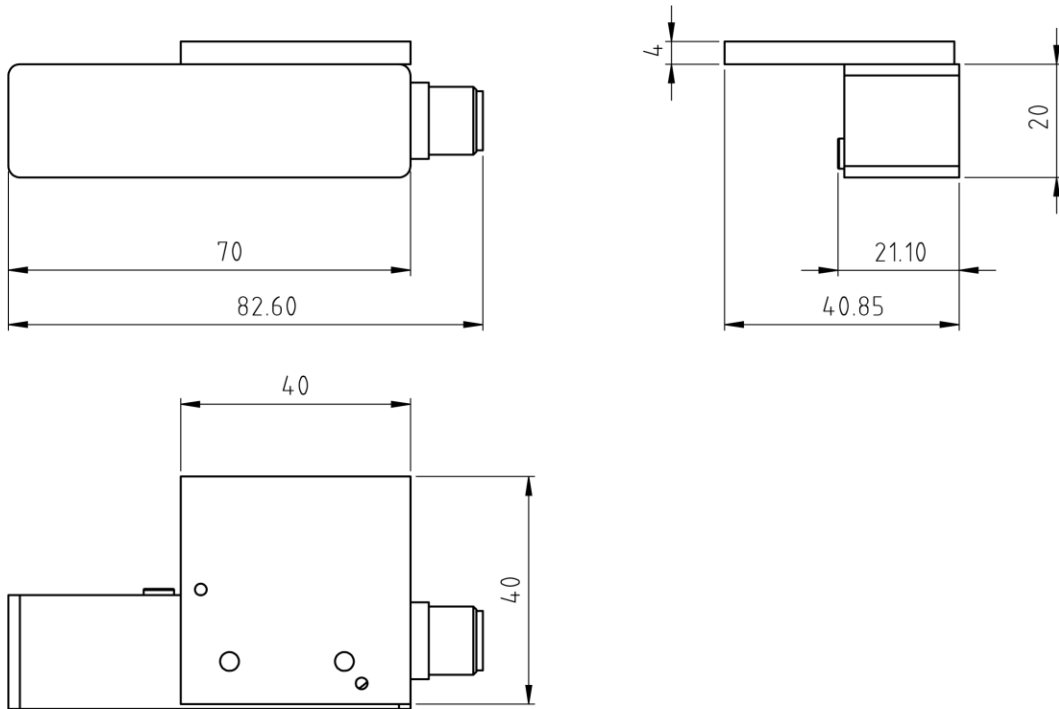
**Due to installation and alignment difficulty, it is highly recommended to order the external sensor kit together with the guide.**

#### 8.5.1 Parts List Absolute External Sensor Kit

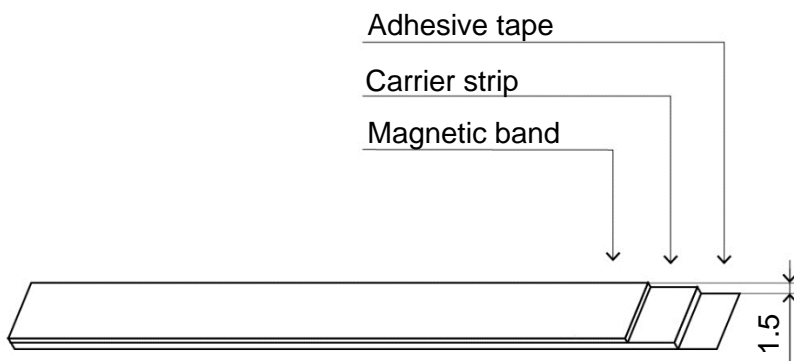
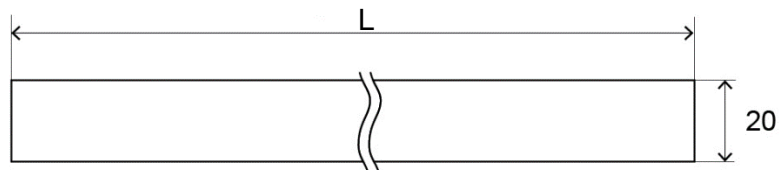


	Description	Item-No.
1	Magnet sensor MS01-1/D	0150-1840
2	Sensor adapter	0160-0067
3	M2.5x16 / ISO 7046-2	
4	M2.5x10 / ISO 14583	
-	Cable clamp (not pictured)	0160-0505
-	M2.5x6 / ISO 7046-2 (not pictured)	

**8.5.2 Dimensions**



**8.5.3 Magnetic Strips for Absolute External Sensor**



Item	Description	Strip length L [mm (inch)]	Item-No.
E01-MB300/D-SSI	Magnetic strip for E-Guide (absolute)	220 (8.66)	<a href="#">0150-2960</a>
E01-MB400/D-SSI	Magnetic strip for E-Guide (absolute)	320 (12.6)	<a href="#">0150-2961</a>
E01-MB500/D-SSI	Magnetic strip for E-Guide (absolute)	420 (16.54)	<a href="#">0150-2962</a>
E01-MB600/D-SSI	Magnetic strip for E-Guide (absolute)	520 (20.47)	<a href="#">0150-2963</a>
E01-MB800/D-SSI	Magnetic strip for E-Guide (absolute)	720 (28.35)	<a href="#">0150-2964</a>
E01-MB1000/D-SSI	Magnetic strip for E-Guide (absolute)	920 (36.22)	<a href="#">0150-2965</a>
E01-MB1200/D-SSI	Magnetic strip for E-Guide (absolute)	1120 (44.09)	<a href="#">0150-2966</a>
E01-MB1400/D-SSI	Magnetic strip for E-Guide (absolute)	1320 (51.97)	<a href="#">0150-2967</a>
E01-MB1600/D-SSI	Magnetic strip for E-Guide (absolute)	1520 (59.84)	<a href="#">0150-2968</a>
E01-MB2000/D-SSI	Magnetic strip for E-Guide (absolute)	1920 (75.59)	<a href="#">0150-2969</a>

### 8.5.4 Absolute External Sensor Cables



Item	Description	Item-No.
KSS01-12.../ABS-ENC-10	for MS01-1/D-SSI, 10m, flying leads	<a href="#">0160-3387</a>
KSS01-12-D15/ABS-ENC-	for MS01-1/D-SSI, Custom length	<a href="#">0150-3652</a>

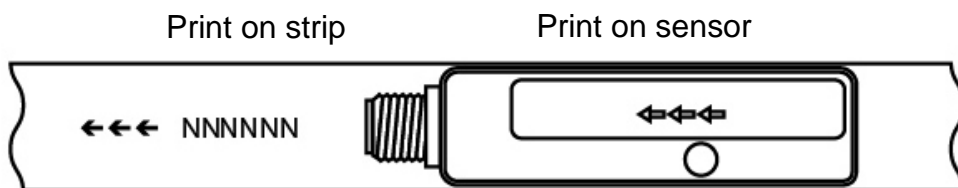
### 8.5.5 Assembling instructions



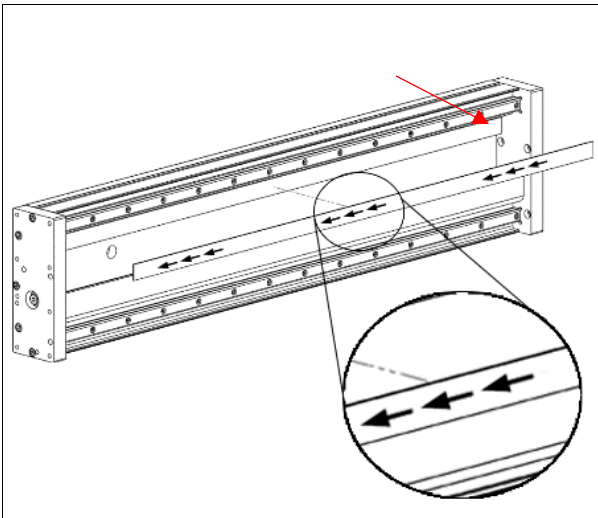
Due to installation and alignment difficulty, it is highly recommended to order the external sensor kit to be pre-assembled together with the guide.



Magnetic strip and sensor travel direction must match. It is required to stick the magnetic strip in the direction of sensor travel as shown on the pictures. Check the direction arrows printed on the strip and the sensor before sticking the band to the profile.







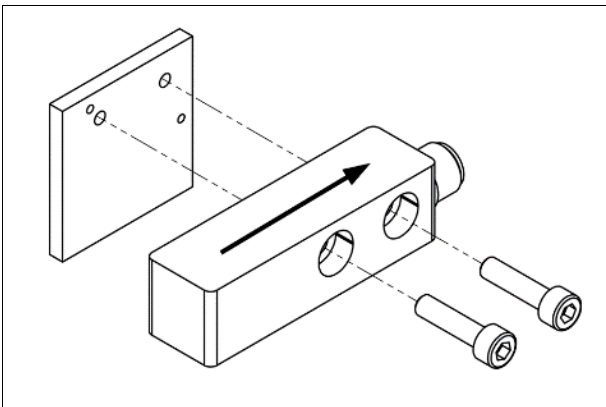
- a. Clean slot on guide profile and then stick the magnetic strip onto the slot.

**Start from the right side of the guide (red arrow) and stick the magnet band as near as possible to the right end plate!**

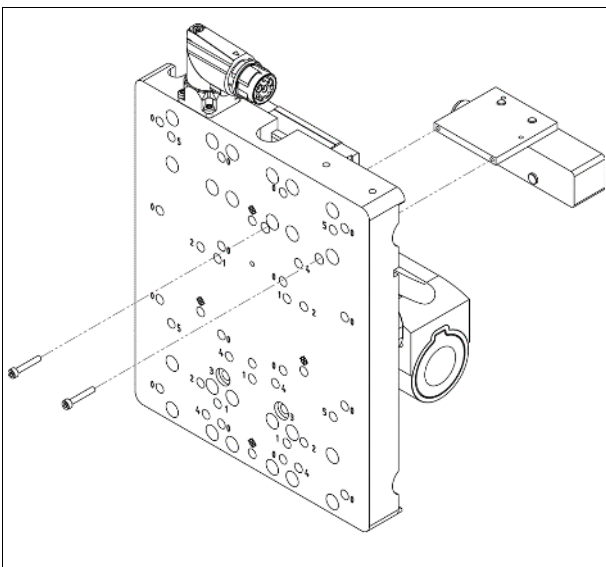
**Travel directions printed on the stick must match with the travel direction on the sensor!**



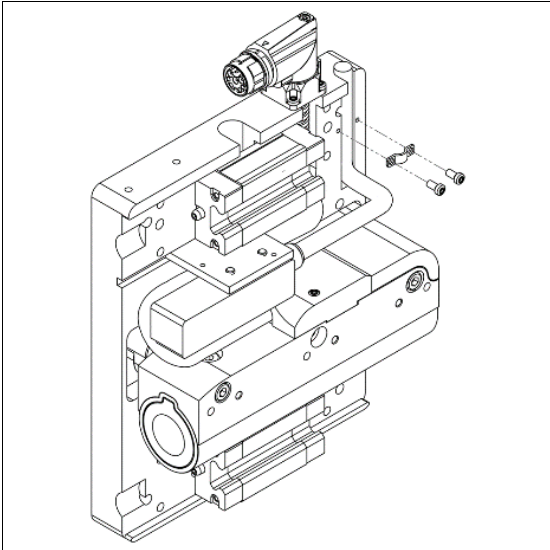
When applying long pieces of magnetic strip do not immediately remove the complete protective foil, but rather peel back a short part from the end sufficient to fix the strip. Now align the strip. As the protective strip is then peeled back and out press the tape firmly onto the mounting surface. A wall paper roller wheel could be used to assist in applying pressure onto the magnetic strip when fixing it in position.



- b. Mount the sensor to the adapter plate, use thread locking compound.



- c. Mount the adapter plate with sensor to the carriage kit, use thread locking compound.



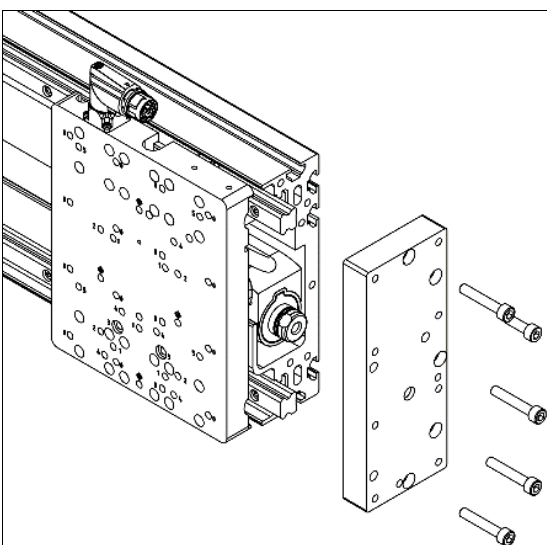
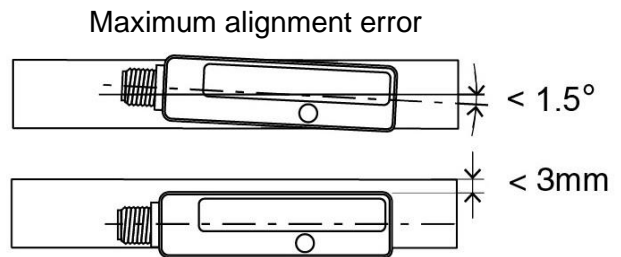
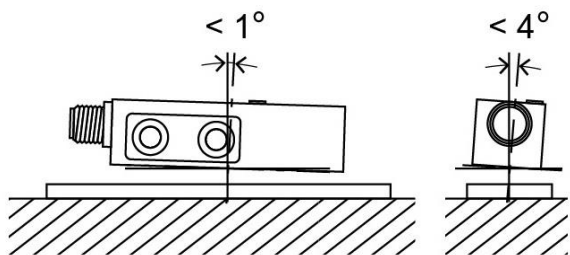
- d. For standard version: Fixate the sensor cable with the cable clamp (pictured).

For heavy duty version: Use the carriage to fixate the sensor cable instead of cable clamp (not pictured).

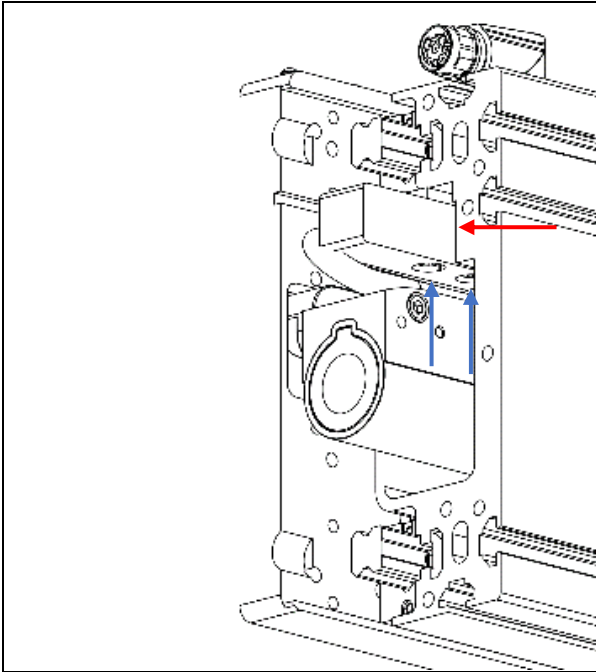
### 8.5.6 Aligning the sensor



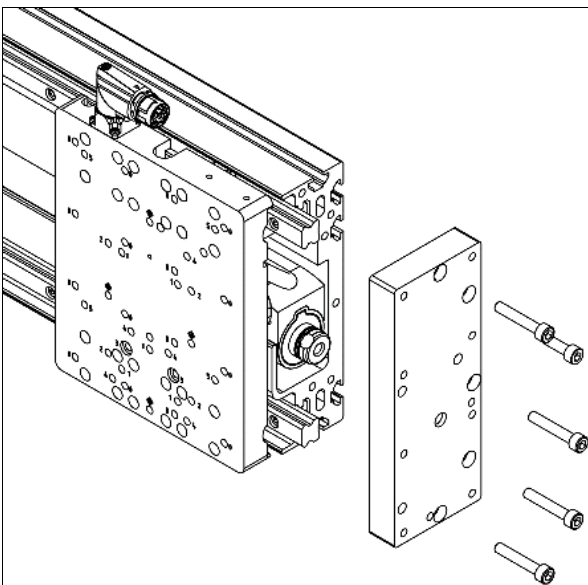
**Due to installation and alignment difficulty, it is highly recommended to order the external sensor kit together with the guide.**



- a. Remove the end plate on the right side (side on which the slider is not mounted).



- b. Slide the carriage kit to the opened side so that the carriages remain on the carriage rails.
- c. Use the L-wrench to loosen the two screws from the bottom that connect the sensor to the adapter plate (blue vertical arrows).
- d. Put the distance strip from sensor packaging between sensor and magnetic strip (red horizontal arrow).
- e. Tighten the bottom screws (blue vertical arrows) using the L-wrench while pushing the sensor against the distance strip. Do not forget to remove the distance strip.



- f. Mount the end plate back to the E-Guide profile. Use thread locking compound.

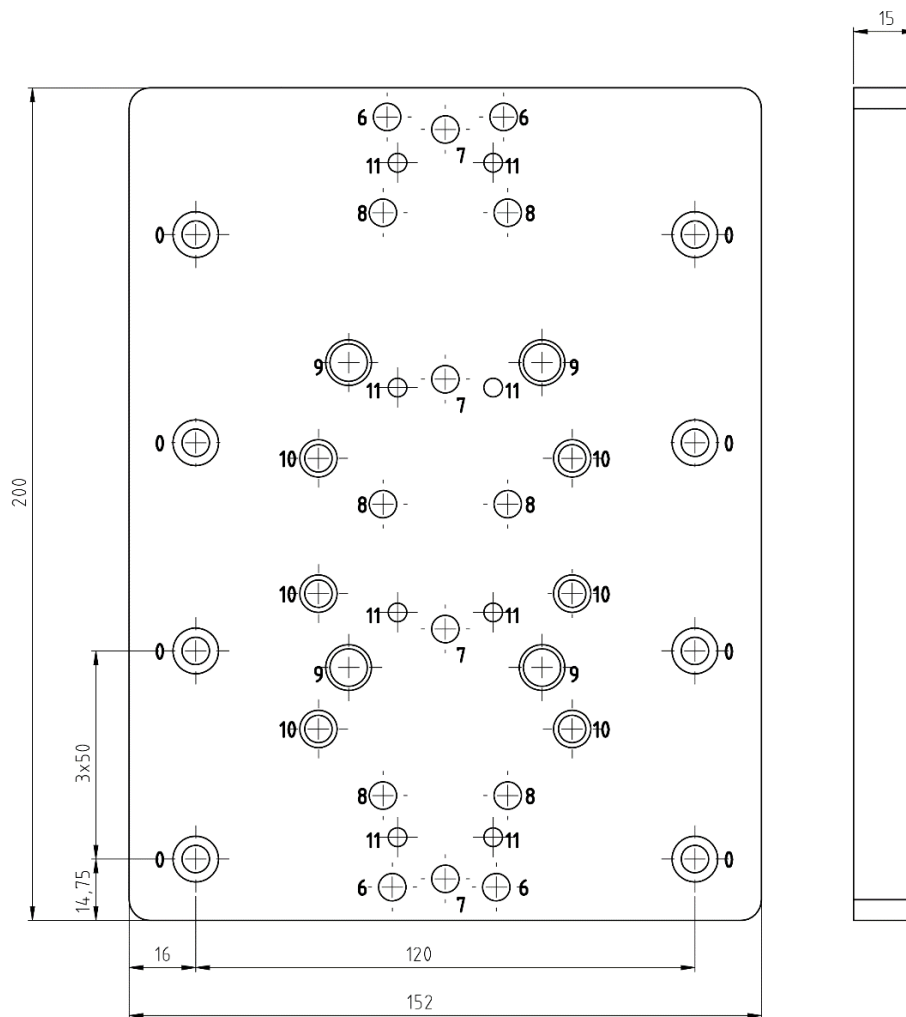
## 8.6 E-Guide Adapter kits

### 8.6.1 Multifunctional Adapter

Item	Description	Item-No.
E01-37S-MA	Multifunctional adapter for E-Guide	<a href="#">0150-2984</a>

Consists of

Pcs.	Size
1	Multifunctional adapter
16	M6x20 DIN 912
8	M6x25 DIN 912
6	M6x14 DIN 912
4	M8x25 DIN 912
6	8 mm M6 T-Nuts <a href="#">0150-2558</a>
6	Centering sleeves <a href="#">0150-3251</a>



Weight: 1.136 kg

Material: Aluminium

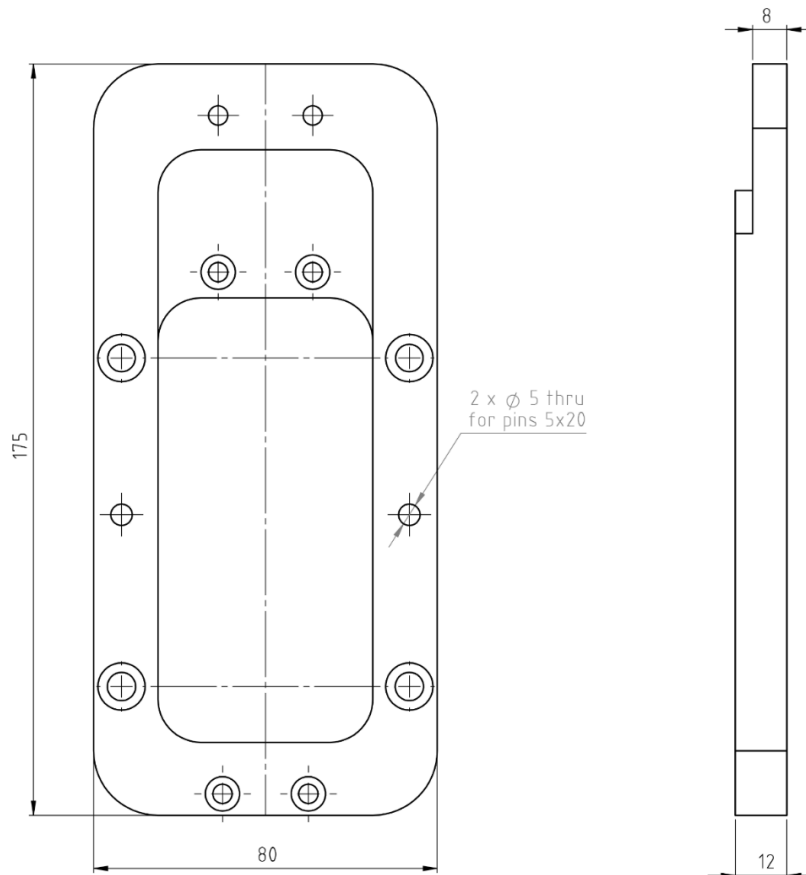
Index	Counterbore for	Used for
0	M6 DIN 912	Mounting on E-Guide Mounting Plate
6	M6 DIN 912	Linear Rotary Motors PR01-70
8	M6 DIN 912	Linear Rotary Motors PR02-52
9	M10 DIN 912	Linear Guides H01-48 and B01-48
10	M8 DIN 912	Linear Guides H01-37 and B01-37

**8.6.2 Adapter for PR01-52x40/60**

Item	Description	Item-No.
F01k-PR01-52x40/60	Adapter E/F-Guide to PR01-52x40/60	<a href="#">0160-2536</a>

Consists of

Pcs.	Size
1	Adapter
2	Parallel Pins Ø5h6x20 DIN 6325
2	M4x8 DIN 912
2	M4x14 DIN 912
4	M6x16 DIN 912



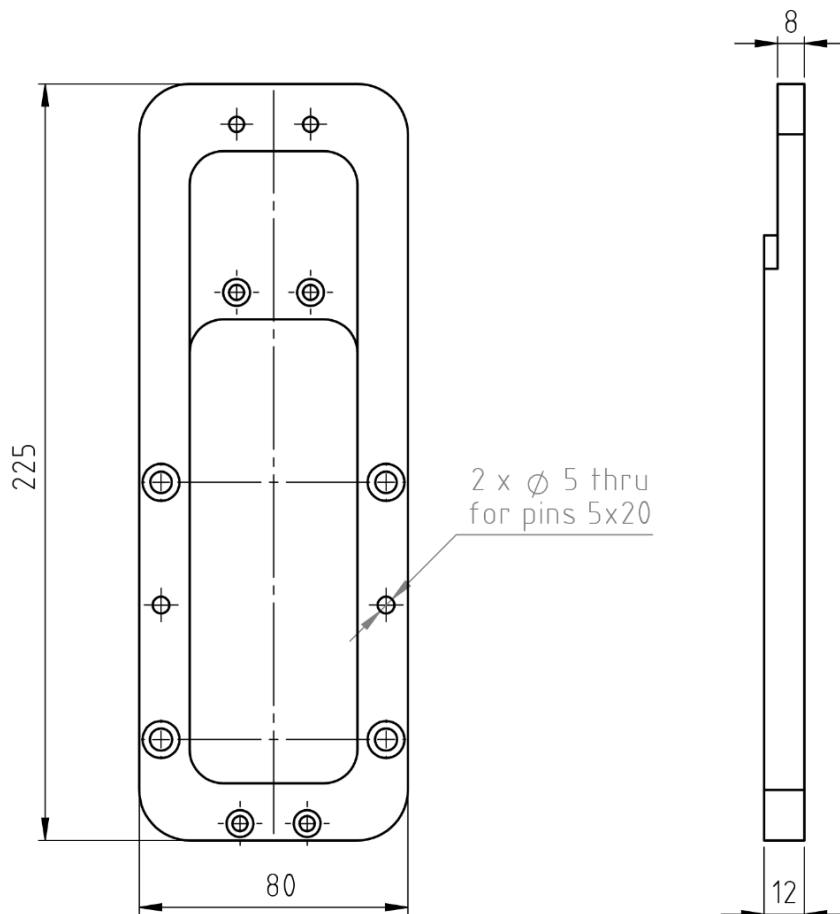
Weight: 0.224 kg  
 Material: Aluminium

**8.6.3 Adapter for PR01-52x60-150**

Item	Description	Item-No.
F01k-PR01-52x60-150	Adapter E/F-Guide to PR01-52x60 stroke 150	<a href="#">0160-2657</a>

Consists of

Pcs.	Size
1	Adapter
2	Parallel Pins Ø5h6x20 DIN 6325
2	M4x8 DIN 912
2	M4x14 DIN 912
4	M6x16 DIN 912



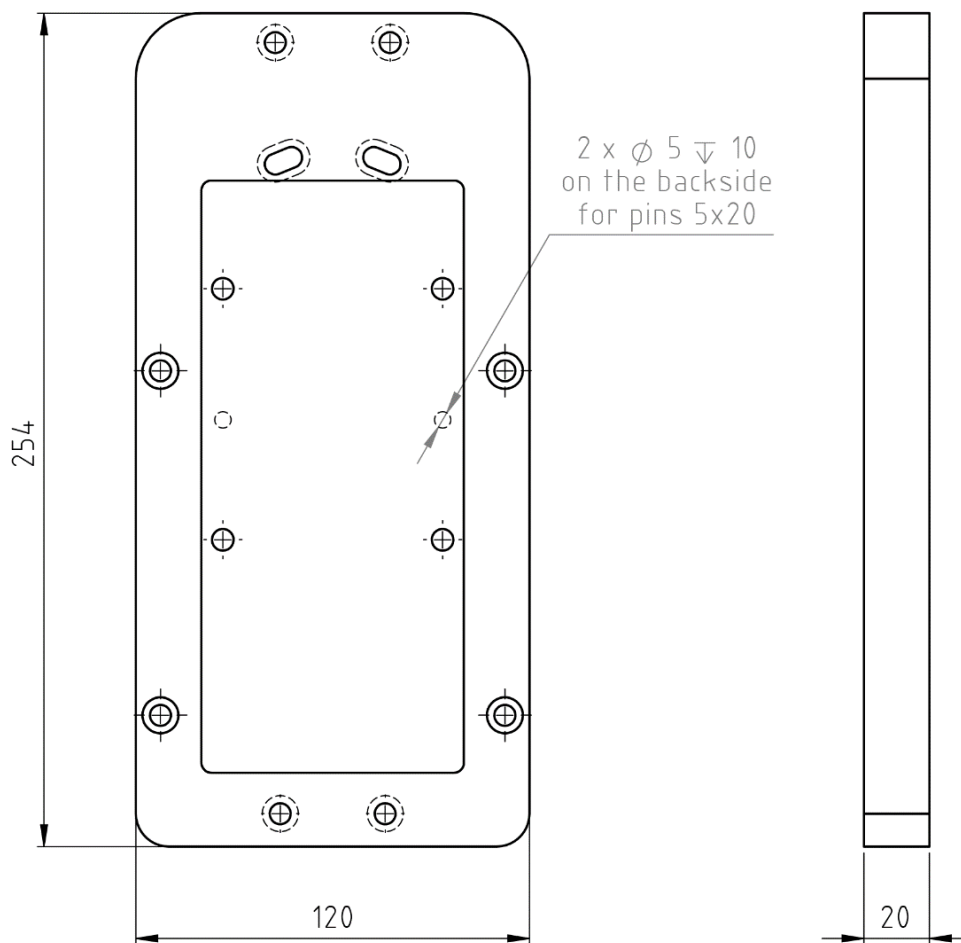
Weight: 0.274 kg  
 Material: Aluminium

**8.6.4 Adapter for PR01-84x80**

Item	Description	Item-No.
F01k-PR01-84	Adapter F-Guide to PR01-84x80	<a href="#">0160-2594</a>

Consists of

Pcs.	Size
1	Adapter
2	Parallel Pins Ø5h6x20 DIN 6325
6	M6x16 DIN 7984
4	M6x30 DIN 912



Weight: 1.252 kg  
 Material: Aluminium

## 9 Maintenance

### 9.1 Maintenance cycles

#### 9.1.1 Carriage rails maintenance cycles

To avoid dirt from adhering to and embedding into the rails, the rails should be cleaned regularly with a "cleaning stroke". SKF recommends a cleaning stroke over the entire length of the rails twice a day or at least every eight hours. Perform a cleaning stroke each time when switching the machine on or off. It's sufficient to clean the heavy soiled carriage rails only with a soft disposable paper.

The lubrication intervals for profile rail guides depend primarily on the average running speed, operating temperature and grease quality. Lubrication interval under normal operating condition ( $v < 1\text{m/s}$ ) with travel under load  $F_m \leq 0.15\text{ C}$  is 5000 km and with travel under load  $F_m \leq 0.3\text{ C}$  is 1200 km.

**Where contamination, use of coolants, vibration, shock loads etc. form part of the environmental conditions, it is advisable to reduce relubrication intervals accordingly.**

$F_m$  determination and more information regarding maintenance can be found in SKF manual 'Profile rail guides LLT 12942'.

#### 9.1.2 Linear motor (Stator and Slider) maintenance cycles

The stators are initially lubricated at the factory. Lubrication is only necessary if the linear motor run dry or is heavily soiled. Under normal industrial, central European conditions (5-day week with 8 hours of operation per day), a quarterly inspection is sufficient. It is advisable to check the stator together with the carriages.

**The inspection cycle must be shortened if there are heavy loads or deviating conditions. These are e.g.**

- Permanent soiling
- Direct sunlight
- Low humidity
- Outdoor operation
- Increased operating temperature
- Strong shocks or vibrations
- Other special environmental conditions

### 9.2 Inspection

When inspecting, the following points must be checked:

- a) Visual inspection of lubrication grease level (clean and re-lubricate if necessary)
- b) Visual inspection of all wearing parts (replace if necessary)

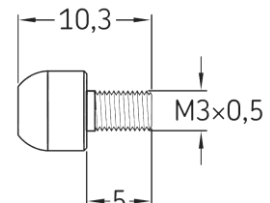
### 9.3 Cleaning and Lubrication



**Carriages and stator use different greases. Make sure that they are not exchanged or mixed!**

#### 9.3.1 Carriage rails and carriages cleaning and lubrication

1. Remove the accommodated soiling. Move the carriage-kit to side to access all soiled parts. It is important that no paper residue is left anywhere on the guide.
2. Each carriage is equipped with a side grease nipple. Access the grease nipple with filler and grease each carriage with  $0.4\text{ cm}^3$  SKF LGEP 2. **Do not overlubricate!**
3. Move the carriage kit three times over the entire stroke. Remove any excessive grease and soil while moving the carriage kit.
4. If no lubricating film is visible on the rail, repeat step 2 and 3.





### 9.3.2 Linear motor (Stator and Slider) cleaning and lubrication

1. Clean slider with disposable paper and LU06 cleaning spray. Move the stator to side to access all soiled parts.
2. By moving the stator over cleaned parts of the slider, a residual soil from the stator bore will be smeared out soiling the slider again. Repeat step 1 and 2 until entire remaining residual soil from stator and slider is removed.
3. Grease the slider with grease LU02 so, that the lubricating film of grease is visible. Move the stator through entire stroke on the slider. If no lubricating film is visible on the slider, repeat. **Do not overlubricate!** Remove any excessive grease while moving the stator.

The E-Guides can normally be cleaned and lubricated without disassembling. If the parts are heavy soiled and cannot be cleaned without disassembling, do the following:

1. Remove the right side panel and slide off the carriage kit with stator.
2. Clean slider and the stator bore with disposable paper and LU06 cleaning spray. It is important that no paper residue is left anywhere on the guide.
3. Grease the slider with grease LU02 so that the lubricating film of grease is visible.
4. Slide the carriage kit with stator cautiously back onto the guide.
5. Screw back removed side panel, use thread locking compound.
6. Move the stator through entire stroke on the slider. If no lubricating film is visible on the slider, lubricate the slider. Repeat until small film of grease is visible. **Do not overlubricate!** Remove any excessive grease while moving the stator.

#### Ordering information

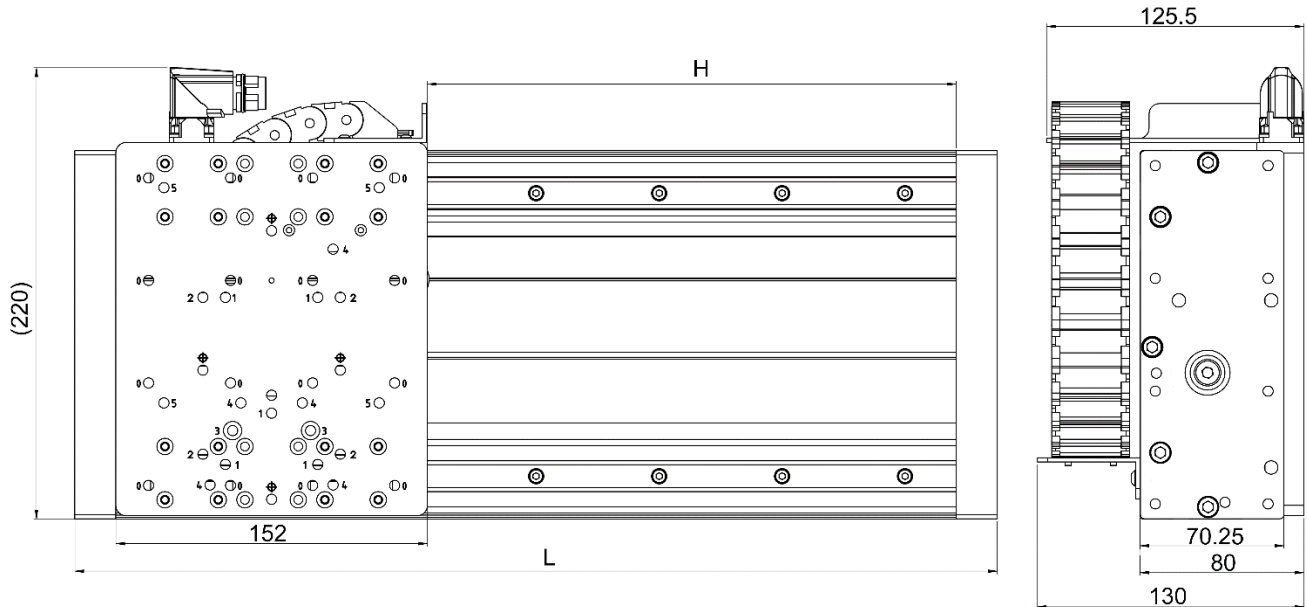
Item	Description	Item-No.
LU06-250	Maintenance spray for linear motors (250ml)	<a href="#">0150-2394</a>
LU02-50	Lubricant for linear motors (50ml)	<a href="#">0150-1954</a>
LU02-1000	Lubricant for linear motors (1000ml)	<a href="#">0150-1955</a>

## 10 Storage, transport, installation altitude

- The storage area must be dry, dust-free, frost-free and vibration-free.
- The relative air humidity should be less than 60 %.
- Prescribed storage temperature: -15 °C...70 °C
- The motor must be protected against extreme weather conditions.
- The air in the storage area must not contain any harmful gases.
- The max. installation altitude is 4'000 m above sea level.  
From 1'000 m, derating of 1 °C per 100 m is to be considered for air cooling.

# 11 Dimensions & Weights

## 11.1 E01-37S-Guide

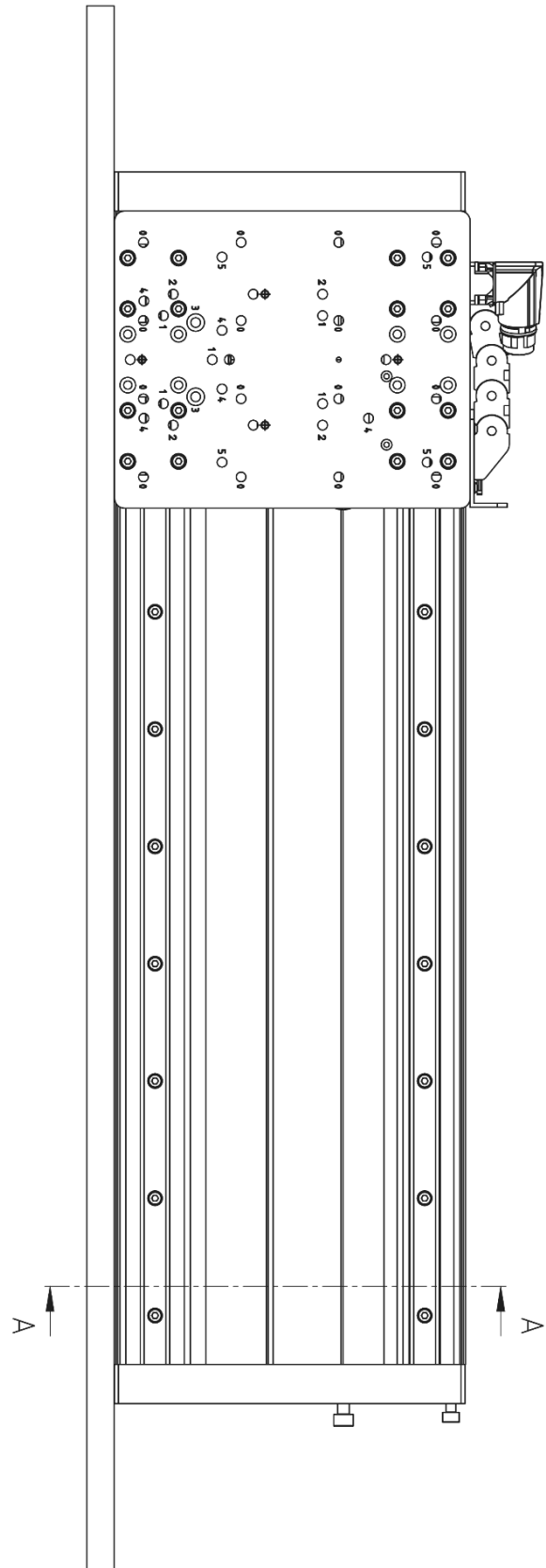
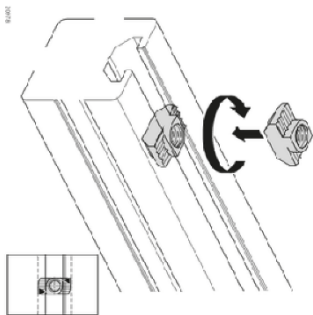
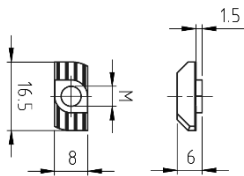
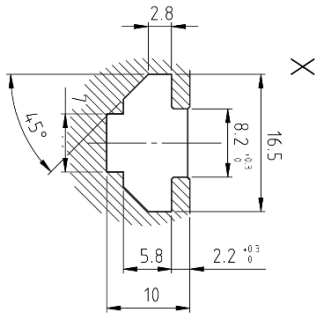
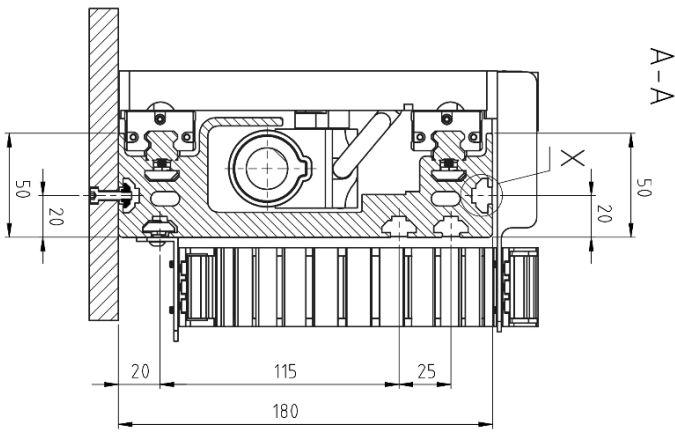


Linear Guide Module	Stroke H <sup>1</sup> [mm (inch)]	Length L [mm (inch)]	Moving mass <sup>1</sup> [g (lb)]	Total weight <sup>1</sup> [g (lb)]
EM01-37Sx300/138	138 (5.43)	330 (12.99)	2540 (5.60)	7670 (16.91)
EM01-37Sx400/238	238 (9.37)	430 (16.93)	2540 (5.60)	8940 (19.70)
EM01-37Sx500/338	338 (13.3)	530 (20.87)	2540 (5.60)	10220 (22.53)
EM01-37Sx600/438	438 (17.24)	630 (24.80)	2540 (5.60)	11510 (25.38)
EM01-37Sx800/638	638 (25.12)	830 (32.68)	2540 (5.60)	14080 (31.04)
EM01-37Sx1000/838	838 (32.99)	1030 (40.55)	2540 (5.60)	16620 (36.64)
EM01-37Sx1200/1038	1038 (40.87)	1230 (48.43)	2540 (5.60)	19190 (42.30)
EM01-37Sx1400/1238	1238 (48.74)	1430 (56.23)	2540 (5.60)	21720 (47.88)
EM01-37Sx1600/1438	1438 (56.61)	1630 (64.17)	2540 (5.60)	24300 (53.57)
EM01-37Sx2000/1838	1838 (72.36)	2030 (79.92)	2540 (5.60)	29430 (64.88)

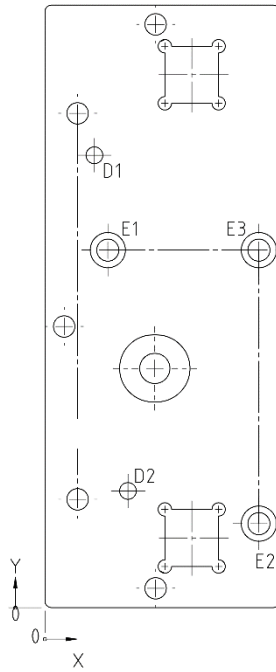
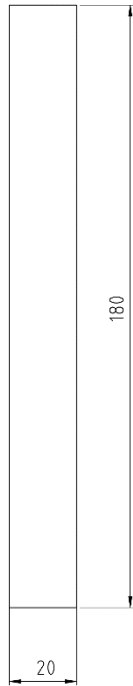
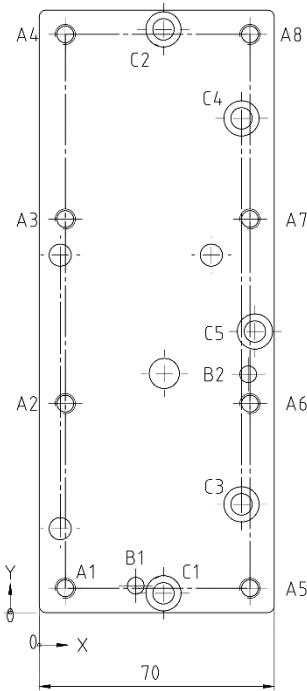
Heavy Duty Linear Guide Module	Stroke H <sup>1</sup> [mm (inch)]	Length L [mm (inch)]	Moving mass <sup>1</sup> [g (lb)]	Total weight <sup>1</sup> [g (lb)]
EM01-37Sx300/138-HD	138 (5.43)	330 (12.99)	2860 (6.30)	7980 (17.59)
EM01-37Sx400/238-HD	238 (9.37)	430 (16.93)	2860 (6.30)	9260 (20.41)
EM01-37Sx500/338-HD	338 (13.3)	530 (20.87)	2860 (6.30)	10540 (23.24)
EM01-37Sx600/438-HD	438 (17.24)	630 (24.80)	2860 (6.30)	11830 (26.08)
EM01-37Sx800/638-HD	638 (25.12)	830 (32.68)	2860 (6.30)	14390 (31.72)
EM01-37Sx1000/838-HD	838 (32.99)	1030 (40.55)	2860 (6.30)	16940 (37.35)
EM01-37Sx1200/1038-HD	1038 (40.87)	1230 (48.43)	2860 (6.30)	19500 (42.99)
EM01-37Sx1400/1238-HD	1238 (48.74)	1430 (56.23)	2860 (6.30)	22040 (48.59)
EM01-37Sx1600/1438-HD	1438 (56.61)	1630 (64.17)	2860 (6.30)	24620 (54.28)
EM01-37Sx2000/1838-HD	1838 (72.36)	2030 (79.92)	2860 (6.30)	29740 (65.57)

<sup>1</sup>Stroke, moving mass and total weight differ in multiple stators configuration.

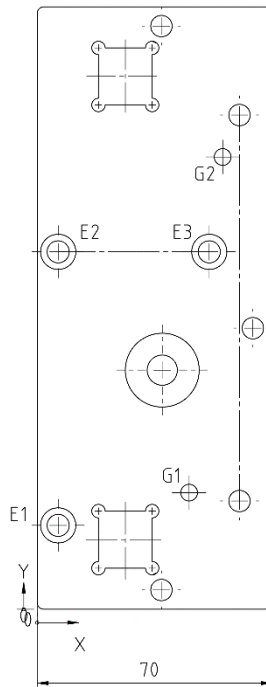
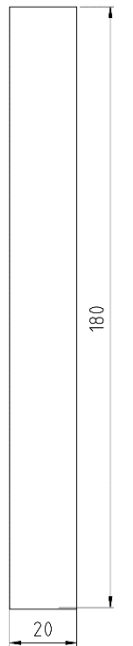
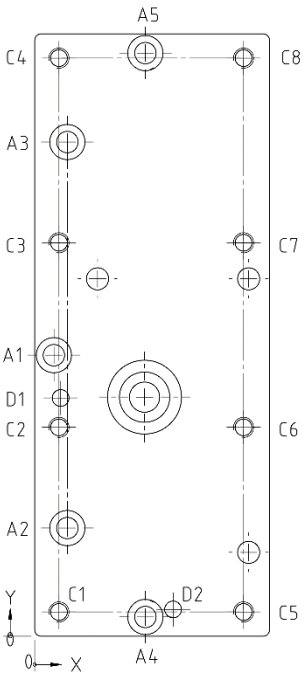
**11.2 E01-37S-Guide T-Slots**



**11.3 Side Plates**

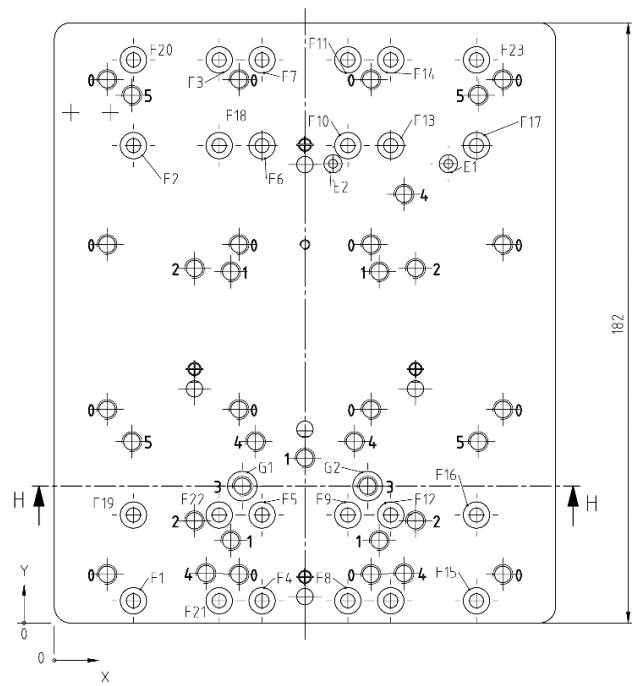
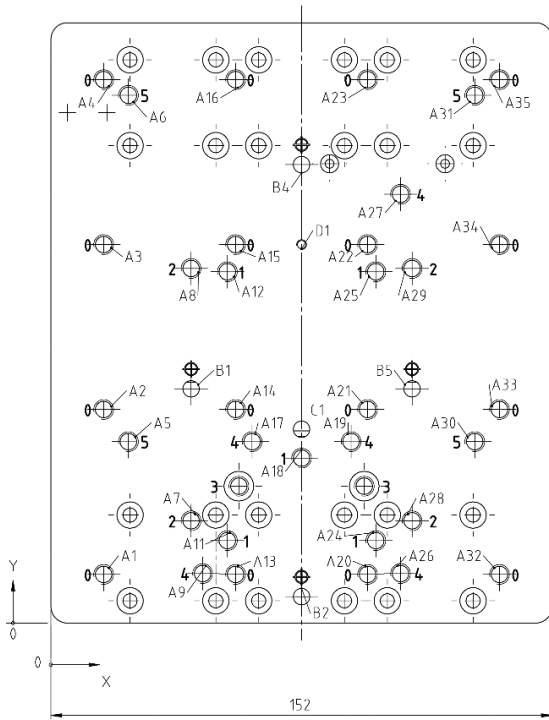
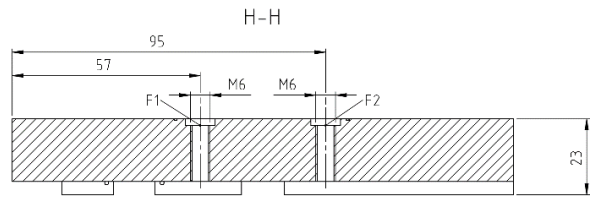


Label	X-Pos.	Y-Pos.	Size
A1	7.75	7.25	M6 ∇12
A2	7.75	62.25	
A3	7.75	117.25	
A4	7.75	172.25	
A5	62.75	7.25	
A6	62.75	62.25	
A7	62.75	117.25	
A8	62.75	172.25	
B1	28.75	8	∅ 5 ∇12
B2	62.25	71	
C1	37	5.75	∅ 6.4 thru ∅ 10.5 ∇6.4
C2	37	173.75	
C3	60.25	32.25	
C4	60.25	147.25	
C5	64.25	83.75	
D1	14.75	134.75	∅ 5 ∇12
D2	24.75	34.75	
E1	18.75	106.5	∅ 6.6 thru ∅ 10.5 ∇6.4
E2	63.75	25	
E3	63.75	106.5	



Label	X-Pos.	Y-Pos.	Size
A1	5.75	83.75	∅ 6.4 thru ∅ 10.5 ∇6.4
A2	9.75	32.25	
A3	9.75	147.25	
A4	33	5.75	
A5	33	173.75	
C1	7.25	7.25	M6 ∇12
C2	7.25	62.25	
C3	7.25	117.25	
C4	7.25	172.25	
C5	62.25	7.25	
C6	62.25	62.25	
C7	62.25	117.25	
C8	62.25	172.25	
D1	7.75	71	∅ 5 ∇12
D2	41.25	8	
E1	6.25	25	∅ 6.6 thru ∅ 10.5 ∇6.4
E2	6.25	106.5	
E3	51.25	106.5	
G1	45.25	34.75	∅ 5 ∇12
G2	55.25	134.75	

### 11.4 Carriage Kit Mounting Plate



Label	X-Pos.	Y-Pos.	Size
A1	16	14.75	M6 thru
A2	16	64.75	
A3	16	114.75	
A4	16	164.75	
A5	23.5	55	
A6	23.5	160	
A7	42.5	31	
A8	42.5	107.5	
A9	46	15	
A11	53.5	25	
A12	53.5	106.5	
A13	56	14.75	
A14	56	64.75	
A15	56	114.75	
A16	56	164.75	
A17	61	55	
A18	76	50	
A19	91	55	
A20	96	14.75	
A21	96	64.75	
A22	96	114.75	
A23	96	164.75	
A24	98.5	25	

Label	X-Pos.	Y-Pos.	Size
A25	98.5	106.5	M6 thru
A26	106	15	
A27	106	130	
A28	109.5	31	
A29	109.5	107.5	
A30	128.5	55	
A31	128.5	160	
A32	136	14.75	
A33	136	64.75	
A34	136	114.75	
A35	136	164.75	
B1	42.5	71	ø 5 ∇10
B2	76	8	
B4	76	139	ø 5 ∇10
B5	109.5	71	
C1	76	58.75	ø 5 ∇10
D1	76	114.75	M3 ∇8
E1	119.5	139.25	ø 5.5 ∇6
E2	84.5	139.25	
F1	24	6.75	ø 4.3 thru ø 8 ∇10.75
F2	24	144.75	
F3	50	170.75	

Label	X-Pos.	Y-Pos.	Size
F4	63	6.75	ø 4.3 thru ø 8 ∇10.75
F5	63	32.75	
F6	63	144.75	
F7	63	170.75	
F8	89	6.75	
F9	89	32.75	
F10	89	144.75	
F11	89	170.75	
F12	102	32.75	
F13	102	144.75	
F14	102	170.75	
F15	128	6.75	
F16	128	32.75	
F17	128	144.75	
F18	50	144.75	
F19	24	32.75	
F20	24	170.75	
F21	50	6.75	ø 9 ∇2
F22	50	32.75	
F23	128	170.75	
G1	57	41.5	
G2	95	41.5	

## 12 Declaration of Conformity and CE-marking

We

**NTI AG**  
**Bodenaeckerstrasse 2**  
**8957 Spreitenbach**

declare under our sole responsibility that the product

Product	Art-No.
PS01-37Sx120F-HP-N-AGI	0150-2550

is conform to the provisions of directives,

**2014/30/EU (EMCD)**

based on the following standards,

**EN61000-6-2:2005**

**EN61000-6-4:2007**

Spreitenbach, 10.03.2017



Dr.-Ing. Ronald Rohner  
CEO NTI AG

# ALL LINEAR MOTION FROM A SINGLE SOURCE

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